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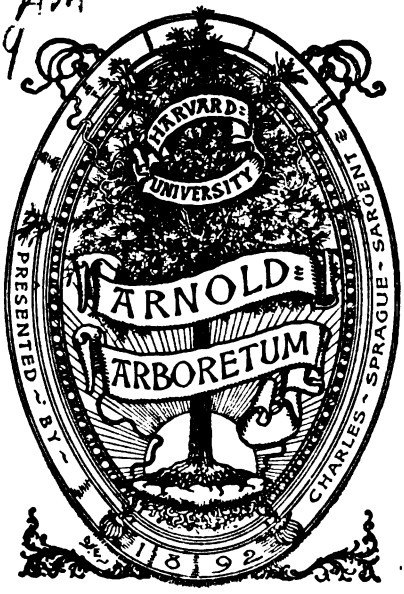
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1892

THE MAGAZINE

OF

HORTICULTURE,

BOTANY,

AND ALL USEFUL DISCOVERIES AND IMPROVEMENTS IN

RURAL AFFAIRS.

"Je voudrais échauffer tout l'univers de mon gout pour les jardins. Il me semble qu'il est impossible qu'un méchant puisse l'avoir. Il n'est point de vertus que je ne suppose à celui que aime à parler et à faire des jardins. Pères de famille, inspirez a jardinomanie à vos enfans."—*Prince de Ligne.*

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THE PROGRESS OF HORTICULTURE.

A BRIEF review of the progress of horticulture during the past year appears an appropriate theme for the commencement of the new. The Magazine itself is, in truth, a record of this. But in the great variety of subjects which are embraced in a volume, some are hastily read, and others partially overlooked, and to refresh the memory with the more important of these is to add to our stock of knowledge, and extend our field of observation. In addition to this, there are various subjects more or less interesting to the cultivator, which have escaped our attention, and an opportunity like this enables us to notice, in an incidental manner, things perhaps in themselves not deserving serious discussion, but yet in the advancement of the science worthy of being treasured up. To recapitulate merely what has appeared in our pages would be a loss of time and space; this would not accomplish our object, which is, in as brief a manner as possible, to record the general progress of horticulture, both abroad and at home.

Preliminary to this we give some account of the temperature and general characteristics of the year.

The month of January was considerably above the average temperature, and free from the extremes of cold which usually occur. The highest range of the thermometer at sunrise was 56°, and the lowest 10°. The general temperature at that time was from 15° to 30°. The 4th, 13th, 18th, 22d, and 26th, were rainy, and at the close of the month the ground was nearly bare of snow.

With February came a change, moderate at first, but falling gradually from 8° on the 4th, to 10° below on the 6th, and 15° below on the 7th; the lowest range of the mercury since December, 1835. It then moderated with 15 inches of snow, on the 9th, which covered the ground till the 15th, when a heavy rain and the thermometer at 38°,

carried it nearly all off. Up to the 24th it continued quite mild; the temperature then fell again to 4°, and the last days were cold, very windy, and disagreeable.

March, without any very great depression of temperature, was, notwithstanding, a cool month, with much cloudy and windy weather, the thermometer ranging from 20° to 30°. There were only 10 days when the temperature ranged above the freezing point, and but one day when it exceeded 38°. In consequence of such steady cool weather the ground continued firmly frozen.

April commenced with a heavy rain, but it immediately changed to hard frost. On the 6th it was warmer, the thermometer reaching 60° at noon, and the frost appeared nearly out of the ground; the three or four succeeding days were cool again, and it was not till the 16th that fine warm spring-like weather set in. From that period to the close of the month it was warm and fine, with genial showers, which gave a rapid start to vegetation.

The month of May was cool throughout, with prevailing easterly winds, but free from the heavy storms which often occur at this season. The 16th was a warm day, with the thermometer at 84°.

June continued rather cool, and quite dry, up to the 26th, when the temperature reached 85°; on the 28th there was a very heavy shower, which was greatly needed, and the 29th was the only very warm day experienced during the month: the thermometer indicated 95°.

With July the warm weather set in; on the 1st, the temperature was 98°; 2d, 91°, and 3d, 86°, with very light showers. On the 7th there was a refreshing rain; it was then cooler up to the 12th. On the 16th it was warm again, with the thermometer at 90°, running up to 98° on the 19th, and again to 96° on the 24th. The close of the month was cooler, with easterly winds.

August was generally cool and dry; the highest range of the thermometer being 86° on the 24th. The last of the month was quite cool, with the low temperature of 39°, and in some places there was white frost.

The month of September, up to the 20th, was as warm as August, and also very dry. On the 12th the temperature was 90°. The 20th was very cool, with the thermometer down to 30°, and a white frost, which slightly injured tender plants. The remainder of the month was warmer, but without rain.

October was a fine month, with mild weather up to the 15th, when the first frost to injure vegetation was experienced. The succeeding week rain fell copiously, which greatly refreshed the suffering vegetation. The month closed with light frosty mornings.

November and December were warmer than the average, with repeated showers, and without any severe frost, the lowest temperature up to Dec. 22d, being 16°.

Summing up the characteristics of the year, they were a cold winter, a mild spring, a dry and cool summer, and a warm autumn. In the Middle and Western States there was an abundance of rain, during the growing season; but in Massachusetts and a portion of New England the summer was unusually dry, and vegetation suffered severely in many places, the effects being sensibly shown in the smaller crop of fruit, particularly pears, which ripened much earlier than usual. Owing to the severity of the winter the peach crop was entirely cut off in the Eastern and Western States, though abundant in New Jersey and the South. Grapes suffered more than usual in this vicinity with the mildew, even the Isabella being much affected in many places. Apples were abundant, though not quite so large as in ordinary seasons. The cherry crop was severely injured everywhere by hot and moist weather, just at the period of maturity, which caused the fruit to rot and drop off. The smaller fruits were abundant, though strawberries were somewhat diminished by drought.

Such have been the results of the year: on the whole much more favorable than the previous one, when a prevailing drought injured more or less every crop. A remarkably fine autumn leads us to anticipate that the coming season will be no less fruitful than the last.

HORTICULTURE.

The subject which has most absorbed the attention of cultivators has been the growth and management of fruit trees, more particularly the pear. Even with all that has been written in reference to the latter, and with all the additional information which longer experience has enabled us to gather together, we have as yet made but little progress in the successful treatment of this delicious fruit. True, there are some amateurs and zealous nurserymen, who produce very fine specimens, and no doubt there is a very general improvement in its more extended cultivation. But the mass of those who have commenced its growth have yet much to learn before they can successfully produce abundant crops. The selection of varieties worthy of general culture—the kind of stock on which they flourish well—and especially the proper period of gathering, as well as the manner of ripening the later kinds, are each subjects which for a long time must command attention, and upon which there is a great deal to be learnt.

As indicating the success of foreign cultivators, particularly the Belgians, where so much attention has been bestowed upon the pear, and where, by the labors of Van Mons and other amateurs, so many superior seedlings have been produced, we have copied somewhat largely the experience of one of their prominent cultivators, M. de Jonghe, of Brussels, on the mode of growing trees in that country.

A reference to his articles will show that even in the mild climate of Belgium, some of the older and finer pears can only be raised in perfection upon walls, or in favorable localities. The White Doyenné, Brown Beurré, and some others, suffer, as they have with us, when fully exposed in a climate warm and favorable when compared with our own.

We have already given some account of the formation of a British Pomological Society. Such an association must confer important benefits upon the public, if there should be a zealous coöperation among its members, and essentially aid in correcting the nomenclature of fruits, now in apparently great confusion. The results of its labors, however, would be much

greater if the English cultivators were not so far behind us in the introduction of new kinds. It is only a few years since the finer pears of the Continent have found favor with the British nurserymen; and in consequence of such neglect our American collections at the present moment are far more extensive than any in that country, while the number of sorts which have been fully proved is also far greater. Even in Belgium there seems to be a lack of accurate observation in the identification of synonyms; for the same fruits are figured and described in one of the most recent publications under two or three different names. The absence of specimen trees, together with an enthusiasm in regard to the introduction of new sorts, has led to this result, and it now remains for us to detect and make known their errors, so prejudicial to the interests of all fruit growers and the reputation of honest nurserymen.

In our own country the organization of Local or State Pomological Societies will be the means of assisting in the important labor of establishing a correct nomenclature, and disseminating information in regard to new seedlings, and varieties of local reputation. Meetings were held the last autumn in the West, fine collections of fruit exhibited, and discussions elicited, which have tended to give additional interest to the whole subject of fruit culture. These societies, coöperating with the American Pomological Society, which holds its next session in Rochester in 1856, will be the means of drawing increased attention to the parent society, and of enhancing the value of its labors.

Looking at the results of the year in a practical view, we may name the experiments of Mr. Simpson in grape culture as deserving especial notice. Last year we alluded to his success in producing two crops in one year from the same vines; since then, through his kindness, our readers have been furnished with an article giving his entire routine of treatment, showing the manner in which it was accomplished. To some of the older cultivators his system appeared ruinous, and a total destruction of the vines was confidently anticipated. Such, however, has not taken place; on

the contrary, the vines ripened another crop in July, which compared favorably with specimens from other cultivators, and now the vines are starting for another crop, which will make four in the space of about two years and a half; a success equal to what Mr. Simpson had expected. Now, it may be asked, what are the advantages of such experiments, or if we would recommend all grape growers to follow Mr. Simpson's system? We answer, certainly not. Yet they show what can be done with the vine under certain conditions, where expense is not an object, and therefore applicable in many cases, though not in all. He who attempts to follow Mr. Simpson's method, with any less care or trouble than that attending the production of his own crop, will signally fail.

The introduction of new varieties of hardy grapes continues to attract attention. The season has been less favorable than the previous one for the ripening of the crop, and some kinds, which appeared to possess very fine qualities then, have not quite sustained their reputation. We have confident hopes, however, that they will yet be found valuable acquisitions; for varying, as this fruit does according to locality, season, &c., one unfavorable year should not detract anything from their general good qualities.

During the past year we have described several new fruits, including a dozen or more pears. We have also in our Pomological Gossip kept our readers informed of everything new and interesting to the cultivator. To that we must refer for details in regard to their qualities and other characteristics. Only a limited number of new sorts have fruited the past year, but some of the more recent additions have fruited in greater perfection than in previous years, and reasserted their claim to a prominent place in our collections. These are the Beurré Superfin, Beurré Bachelier, Doyenné Sterckmans, Jules Bivort, Beurré Nantais, Grand Soleil, Beurré Clairgeau, Beurré Sterckmans, Fondante du Comice, La Juive, Abbott, Beurré Montgeron, and some others. Among strawberries, the Scott's Seedling and Jenny Lind have proved great acquisitions. The Lawton blackberry has continued to attract much attention, and the abundance

of its product, as well as the size and excellence of its fruit, bespeak for it a place in every fruit garden. A new everbearing raspberry, called the Cattawissa, has been described in our last volume by Mr. Peirce of Washington, which promises to lengthen out the season of this esteemed fruit: whether it will sustain its everbearing qualities in a more northern latitude remains to be seen; but if it should it will be a welcome addition. Other new raspberries we have noticed in another page.

FLORICULTURE.

The introduction of so many fine plants adapted to summer culture in the open air, as well as numerous accessions to the list of more tender plants suitable for decorating the greenhouse at the same season, has greatly increased the attractions of both, and rendered the latter almost as gay as in winter. The immense variety of gloxinias, now greatly improved by hybridization,—the great number of species as well as varieties of the achimenes, are in themselves sufficient to keep up a succession of beautiful flowers, from June to October; but when we add to these the Japan lilies, the attractions of the greenhouse are scarcely less than at any other period of the year.

The summer blooming or bedding plants are also great acquisitions to the flower border; and indispensable where a continued display is to be kept up. The new and beautiful lantanas, salvias, geraniums, and infinite variety of verbenas, of almost every hue, keep up a show of flowers unknown to our gardens a few years ago. Their beauty can scarcely be overrated, and though we would never attempt to produce a fine effect without them we would not neglect the "annuals," which still possess a beauty of their own; and when disposed in masses or groups, as they should be, with some exceptions, the abundance of their flowers, as well as their varied colors, render them attractive throughout the season.

To aid the amateur in the laying out of gardens in a style best adapted to display these classes of plants in the most

beautiful manner, we have given four designs in our last volume, either of which, planted with a reference to their colors, would have a fine effect. Or, when so much ground cannot be spared for flowers alone, they may be planted in combination with roses, shrubs, and evergreens, as we have stated in our remarks illustrative of each design. We should be pleased, however, to see the *parterre* as a distinct feature more frequently introduced, for, however interesting the mixed garden may be, it never can be made to produce that brilliant show which belongs only to the grouping system. Any person of taste can readily imagine how striking would be the appearance of a garden laid out according to Design No. 3, (p. 330.)

Among the variety of articles upon the cultivation of plants in our last volume, we may refer to that by Mr. Allen on the treatment of the Victoria regia; which, though not of general application, shows how easily this great lily may be raised. Other papers, of a more popular character, because interesting more or less to every reader, are those on the Culture of the Pompone Chrysanthemums and Cinerarias, two of the most showy autumn and spring flowering greenhouse plants. Both of them are great additions to every collection. Through the exertions of the French and English cultivators they have each been brought to a high state of perfection, and now hold a prominent rank among florists' flowers. They deserve the especial attention of all amateurs.

In a recent volume we copied a very instructive article on the culture of the Hollyhock, and hoped it might have a tendency to draw attention to this very showy hardy border flower, not surpassed in its present improved state by scarcely any other plant. But, so long has it been neglected as a coarse flower, and so little known are the new varieties, that cultivators are slow to introduce what was at one time almost banished from our gardens. The importation of some of the choice foreign kinds has, however, created a new interest in the plant, and we confidently hope that it will here become, as it has in Great Britain, with the dahlia, a universal favorite.

We have neglected to recommend to the lovers of showy

flowers the fine varieties of the herbaceous pæonies, which, through the labors of the French and Belgians, have now become no less numerous than they are superb. In a former volume we described many of the best that we had seen up to that time. But the recent acquisitions are of a remarkable character, and surpass many of the older sorts. M. Parmentier of Enghein, Belgium, has produced some splendid dark varieties, and M. Guerin of Paris several light or rosy tinted ones, which are unsurpassed. We have been surprised to see so little attention bestowed on these plants by our amateurs, and we hope that in place of the six or eight old kinds usually planted, we may see, in addition, the magnificent new ones, such as Féstiva, sulphurea, papaveriflora, Triumph du Nord, Reine des Francais, &c., &c.

The introduction of new plants and the production of new seedlings the past year has not been very extensive, though some fine things have been described under our Floricultural head. Among the new plants are the White Corolæed Fuchsias, which have attracted so much notice among the English cultivators. The new varieties of Gloxinias, Wilsòn*i*, &c., now so very beautiful from the fine blending of colors; the Achimenes, and their co-species and varieties, Tydæa, &c., particularly T. gigantea; Eugèn*ia Ugni*, Rhodiòlea Champiòn*i*, Ceratosma longiflora, Sálvia porphyrocoma; Azaleas, amœna, crispiflòra, Beal*ii*, Mont Blanc, Osborn*ii*, narcissiflora; Berberis Darwin*ii*; E'pacris impressa candida, densiflòra, delecta, magnifica and others; several of Odier's Fancy Geraniums; Fuchsias, rèvolùta, Figaro, Mazeppa superba, Transcendant, &c.; Bouvard*ia* hirtella and angustifòlia. Several new Monthly Carnations; Tea Roses, including Gloire de Dijon, &c. Among summer-flowering bulbs, new Gladioluses, some of which are remarkably beautiful. Among shrubs and evergreens, the Spiræa callòsa, Billard*ii*, and Reeves*iana* flore pleno, each of which are described and noticed in another page. Fitzroy*a* patagonica, Saxegòthæa conspicùa, *A*bies jezoensis, several junipers and other coniferæ. Some of the above we have already described, as they have displayed their flowers, and the others will be noticed in the course of the volume.

ARBORICULTURE AND RURAL IMPROVEMENT.

The taste for ornamental trees and shrubs is steadily increasing throughout the country, adding to the beauty of our villages and country towns, and creating a greater desire for rural improvement generally. There is room, however, for a more rapid progress, and we have labored to show how important are trees, not only as ornamental objects, but for the purposes of shelter, and in the western portion of our country for fuel and timber. To this end we have offered an article of our own, and another by our correspondent, Mr. Flagg, who has shown in how many ways plantations of trees contribute to our comfort. In a climate as variable as ours no one can be insensible to this fact, and it only surprises us that more has not been done to shelter our dwellings from the chilling blasts of winter, as well as protect our plantations from the unfavorable winds of spring and autumn. There is no subject of more importance, and we hope to awaken an interest in it which shall result in accomplishing more speedily what seems to have been so long overlooked or forgotten. Mr. Flagg will commence a series of papers in the present volume, on the character and beauty of our forest trees, their adaptation to particular soils and situations, their fitness for shelter, shade, or ornament, their growth and treatment, the pecuniary value which they give to property, and their arrangement in plantations for picturesque effect. We shall also endeavor to give a description of the rarer ornamental trees, which have been neglected, or are too little known to be generally sought after by amateurs and lovers of beautiful trees.

We might enlarge upon this subject, but want of room compels us to be brief.

HORTICULTURAL LITERATURE.

Since our last notice two years ago, there has been but little added to our stock of Horticultural works. New editions of various books have appeared; but the number of new publications is small. The latter comprise *Village and Farm Cottages*, by Messrs. Cleaveland, Backus Brothers, New York; the *Fruits of America*, Vol. II., nearly ready;

the *Western Fruit Grower's Guide*, by F. R. Elliott; a *Manual on the Strawberry*, by R. G. Pardee; and *Victoria Regia*, by J. F. Allen, a superb folio, with plates of full size, chromolithed by W. Sharp. Besides these there have been American editions of Niell's *Fruit and Flower Garden*, edited by R. G. Pardee, and *Fruit the proper Food for Man*. In periodicals several changes have taken place. The *Horticulturist* is now edited by J. J. Smith, and is published at Philadelphia; the *Country Gentleman* is to have the additional aid of Luther Tucker, Jr.; the *Genesee Farmer* has passed into the hands of J. Vick, Jr. The *California Farmer* is a new weekly journal, edited with much ability by J. L. L. F. Warren, and is an able exponent of the progress of agriculture and horticulture in that new and remarkable State. The *American Agriculturist* has been changed from a weekly to a monthly. Many new journals have also been started in various States, showing the increasing interest taken in everything relating to agriculture and its kindred arts.

A FOREST PRESERVE.—A PROPOSAL TO STATE AND CITY GOVERNMENTS.

BY WILSON FLAGG.

It has long been thought, by intelligent observers of the changes lately wrought upon the face of the country, that something must be done by legislation for the preservation of our forests, and of the birds and other animals that inhabit them. The proposal offered in this paper is designed to meet only one of the wants created by the rapid disappearance of our forests. In a future essay I shall present other considerations, bearing more directly upon the planting and preservation of woodlands. The following views are addressed to our State legislature and our City governments in particular, and to all, in general, who are interested in this important matter.

It is proposed that these public bodies should authorize the

purchase of a thousand acres or more of wooded land, as near as practicable to every large city, to be kept as a *preserve*, and to be used also as a place for the study of natural history, and for summer recreation. The most wild and uncultivated spot in the vicinity should be selected, and one that is already partially covered with wood of a spontaneous growth. The tract ought to comprehend a great diversity of surface within its limits, and a small lake or stream. This spot should be preserved from age to age, in its primitive state of wildness, save that it should be sufficiently cleared of tangled undergrowth to render it accessible to visitors, and agreeably intersected with footpaths, some of which should be of sufficient width to admit of a drive in an ordinary chaise or wagon.

I am fully aware that pleasure ought not to be the chief aim of life: I am equally well convinced that the best pleasures are such as do not interfere with the proper business of life. All vicious amusements lead, not only to the neglect of useful pursuits, but also to extravagance and dishonesty; but a young man would not take what does not belong to him, that he might attend a picnic party in the woods, or take a botanical walk. The expenses consequent upon such an excursion would not exceed the pecuniary means of the humblest clerk or apprentice; and, when rambling in these grounds, the most obtuse intellect could not avoid catching a little of that inspiration that distinguishes such a man as Linnæus or Audubon from a mere bog-trotter. Nature would here be seen in her most interesting aspects, and many, who were previously enamoured of vice, might learn in these retreats to aspire after purer and more rational pleasures.

The good influences encountered in this place would be greater and more numerous than in the solitary forest, as the grounds would be accompanied by numerous objects calculated to draw attention not only to the works of nature, but also to various subjects of artistic study. Here, on a little tablet of marble or freestone, is a poetic incription, suggesting a pleasant moral, and teaching the young mind how to draw lessons from nature. In another place is an opening in a wood, that looks out directly upon a lovely prospect, reveal-

ing to the sight certain objects in the distance, and prompting the spectator to an inquiry concerning their beauty and fitness. Some, who were familiar with the charms of the country in their early days, but whose taste has long slumbered while they were engaged in the pursuits of fortune, may here revive their early love of nature, and become better and happier men. Allied to the love of nature is a respect for the toils of the husbandman, or, as it was called by the ancient poets, a veneration for the plough. A contempt for the labors of the field is very apt to be nurtured in the mind of a young man who is confined to trade in the city, and who looks on the farmer as a mere pedler of turnips and cabbages to the lords of the market. When he goes forth under the majestic trees of the forest, and, through the openings on the hill-sides, beholds a hundred fertile farms, each a little Eden in the grand prospect before him, he views agriculture in a nobler light, and the pedler of turnips and cabbages is transformed into a sovereign of the fields.

The traveller from England is often heard to inquire for our public grounds, of which he can point to so many beautiful examples in his own land. We can only direct his attention to some inferior conservatory of exotics, or to some flat piece of land, consisting of five or six acres, divested of trees, laid out with gravel walks, with a spouting fountain in the midst, and maintained at a great and useless expense. In this respect we are behind all Europe; but it is in our power to make a rapid progress, and to go far beyond the point at which any nation has yet arrived. We have land in all parts of the country that is at present of little value. By devoting liberal portions of it to this important and delightful purpose, we should command the gratitude of all posterity; and though their gratitude is nothing to be desired for its own sake, it is our duty to see that posterity is provided with something that should be calculated to excite this sentiment towards us.

Our people, who are in general governed more by their ideas of fashion than of taste, are greatly in the habit of frequenting the White Mountains, and other picturesque places of resort. This custom, like any other that leads to the ob-

servation of nature, must be attended with good results. But there is only about one person in five hundred who can afford to make such trips. For the benefit of the many whose circumstances confine them to their own vicinity, a place of rural resort, not very far from the city, should be provided—not for the convenience of loungers, but for the refined, the studious and industrious. For this reason, the grounds should be a forest, that would tempt only the rational and intelligent to frequent it, and not a garden, which, on account of its attractions to the idle and vulgar, would soon degenerate into a mere theatre of rowdyism. Those who have neither money nor leisure for travelling, need such advantages more than people of wealth; and it seems to be the part of equal justice and humanity to provide such a retreat for the special benefit of the more elevated portion of these classes.

It is worthy of notice, that many persons, who can give us a very good description of the White Mountains, Niagara, and other similar natural wonders, know nothing at all of the beautiful and romantic scenery in their own neighborhood. There seems to be a prevailing sentiment that there is nothing admirable in nature except her monstrosities, and that one who has never witnessed these is incapable of appreciating her beauties or her wonders. For similar reasons, he must be utterly ignorant of human nature who had never seen a Daniel Lambert or the Siamese twins. But it is not peculiar to the present generation to overlook the natural beauties near their own homes, while indulging in raptures over those no more remarkable, at a distance. We should not be obliged to ride out more than six miles from this city, to visit one of the most romantic spots in the whole country. I allude, at this moment, to the scenery immediately surrounding Barthelemy's Pond, in South Danvers. In this place, which is only partially wooded, nature has blended the wild, the grand and the beautiful, in such pleasing proportions, that one finds it difficult to determine what emotion predominates while he is contemplating its varied prospects.

Let us set a praiseworthy example to the nation, by pur-

chasing some of these wild and beautiful tracts, and consecrating them to the beneficent purposes of taste, science and humanity. Many of these places have been entirely divested of their wood, and stand in naked desolation, as monuments of the folly or negligence of our predecessors. It behoves the present generation to secure some of the most important of these tracts, which are still partially wooded. Such an enterprise is not likely to be accomplished under many years, unless we set the public an example of the kind in Massachusetts. Boston established the first rural cemetery in our land; let this city establish the first forest preserve on a large scale, and its example would be immediately followed by all other cities. It might also be found convenient and practicable to connect these *forestries* with agricultural schools, in which the pupils might, during their leisure, devote themselves to the study of natural history, and the pursuits of taste.

I will now, in general terms, endeavor to explain the manner of laying out these grounds, and the means to be adopted for keeping them in repair. The expense of such a work is liable to be over-rated, by over-estimating the quantity of labor which would be necessary to complete the undertaking. I have already premised that one prominent object should be to preserve these grounds, as far as practicable, in their state of primitive wildness, or in one resembling it. The only desirable improvements are the planting certain naked portions of the land with trees and shrubbery, and divesting certain other parts of their wood, where it interferes with pleasant prospects; and, finally, intersecting the whole with paths, for the purpose of rendering the grounds accessible. These should not be gravelled, and I would allow them to be overgrown with grass; considering them in proper condition, when they were free from shrubs, thorns, and tangled vines. Nature rears in such green paths some of the loveliest of her productions; and, if they were left to nature after the first clearing, the miscellaneous wild flowers which would spring up spontaneously in their borders, would form a delightful addition to the interesting objects of the place.

But it may be inquired, if all this land is to lie waste, like the hunting grounds of Great Britain, and not to be used for any agricultural purposes? I answer, that, even if it were so, they would be no less useful and profitable to the community. A forest for the preservation of birds, and other wild animals, is becoming absolutely necessary, though it could be made to serve no other intention. As a place for healthful recreation, and for the pursuits of natural history, it would fully compensate for the consequent sacrifice of agricultural space. But there is no reason why it might not, consistently with its designs, be used within certain moderate limits to afford pasture to flocks and herds. These animals, always picturesque, would afford an agreeable appendage to the landscape, and, by proper care, would not interfere with the growth of indigenous plants. In this way, taste and profit might be made to go hand in hand, and the pursuits of natural history, and the enjoyment of rural recreation, be made subservient both to the interests of man, and to the preservation of the inferior animals.

No part of these grounds should be devoted to any ornamental purpose, nor to the cultivation of exotics, save those which are already naturalized, and would grow spontaneously after being planted. On the other hand, I would introduce into their proper localities all the trees and other plants of our own climate, that the place might afford complete facilities to the student of botany. A catalogue of the most important plants, with an index to their locations, might be kept in the house of the superintendent.

The life of every creature, with the exception of certain offensive animals, should be held sacred within the limits of these grounds. It should be considered a misdemeanor to kill a bird or a squirrel, or any other inoffensive animal that made its dwelling here. On this account, the more extensive the grounds the better, as they would afford proportionally a better asylum to the dumb creatures which are on all sides persecuted by man. It may be thought that these animals need no such protection. Birds, it may be said, are as common in the thickly settled countries of Europe as they are in

our thinly settled territories. Admitting this as a fact, it ought to be considered that the whole agricultural system of Europe differs from that of America. In Europe, many a wealthy nobleman owns a forest, or a park, that is measured by miles instead of acres, and to which his house and garden are, as it were, only an appendage. In these grounds, not only does nature afford the birds and quadrupeds an opportunity to live and to multiply, but they are also protected by game laws. Any game laws enacted by our legislatures would be insufficient for their preservation; and nothing but a general adoption of this project of devoting certain reserved tracts of wild land to this special purpose, can prevent the final extermination of many species, and a vast diminution of all.

And what a rare opportunity would these grounds afford, to those who were anxious to observe the habits of wild animals. The birds that frequented them, on account of their constant familiarity with people who visit the place, and their freedom from molestation, must become very tame and companionable. Their habits, on this account, could be observed more minutely than in common woods and pastures, where they are terrified by the fowler, who causes them to look on man as their natural enemy. Not in these places alone would the birds find an asylum which they cannot find at present. The general establishment of these *forestries* would inspire the whole people with respect for the lives of these innocent creatures, that would accordingly find better protection in private grounds. Men, having learned humanity in these rustic retreats, would be more solicitous to protect the birds in their own fields; and, inspired by new ideas of nature and art, they would be more careful to observe the rules of taste and economy in the cutting down of their woods, and in their general system of rural operations.

There could not be a more delightful appendage to the suburbs of our cities, than a square mile or two of forest, devoted to these useful and humane purposes. The different cities of the Union would vie with one another in the extent and magnificence of these grounds, and the habit of fre-

quenting them would produce the most salutary influence upon the minds of the people. In a country like this, where the tradesmen are almost the only wealthy inhabitants, they are necessarily the chief patrons of the arts. The taste that prevails among the members of this class of the community, is, therefore, a matter of greater importance than in other countries, where the nobility are the chief patrons of the arts. Nothing could be devised that would serve so effectually to diffuse throughout the population of our towns and cities a love for the beauties of nature, as an extensive *preserve*, to which they might resort whenever good weather and an hour of leisure would permit; and the observations made in this place would naturally inspire them with a pure and unsophisticated taste for the finer works of art.

Let us now attend to the very reasonable inquiry, as to how this place is to be supported. Would it not be a continual tax upon the public? Not at all, if it were made what it is designed to be—a forest, and not a garden. We must consider that it is not to admit of the cultivation of exotics, which require so much labor of weeding and training in our gardens. It is not to be used for a pleasure ground, but as a place of study and recreation for man, and an asylum for the inferior animals. The walks are to be of such a description as to require but a small portion of labor to keep them in proper condition. They are neither to be covered with gravel, nor kept clear of grass. Nothing is to be rooted out from them, except those plants of a shrubby or thorny nature, which would interfere with our progress. As a superintendent of the grounds, it would be necessary to employ some person, who must in one way or another be compensated. A laboring man of good sense and taste would perform all the necessary duties, for the privilege of occupying a small cottage that should be attached to the place, and of pasturing his cattle and flocks. As perquisites, he might be allowed to use the pickings of the forest, which would require every season to be divested of superfluous wood, and of certain trees that might stand in a bad position.

In certain favorable situations I would place tablets for in-

scriptions, which should be either original or selected, and calculated to induce the visitor to draw a pleasant and instructive moral from the scenes around, and to pay proper respect to the preservation of the objects contained within the place. After a spot had been selected for an inscription, a small premium might be offered for the one most suitable for the purpose. These little circumstances must produce a favorable influence upon the public taste, and increase the attractiveness of the grounds. On the principal entrance, for example, I would place a tablet of marble, and engrave upon it the following lines :—

INSCRIPTION.

Stranger, when first you enter in these grounds,
Ponder awhile, and see with how much care
Nature has reared all things in proper place,
And crowned each hill and dale with beauty. See
How every bird that sings upon the bough
Seems conscious of his perfect freedom here.
How carelessly they hop from tree to tree:
And man, whom elsewhere they regard their foe,
They seem to welcome with their tuneful notes,
Half conscious of their own security.
Then be not false to these kind promises
By every sign held out to beast and bird.
Let not the murderous gun's report alarm
The harmless habitant of this wild wood.
Let man, who calls himself creation's lord,
Show himself worthy of this boasted name,
By bringing here a heart that feels a care
For every harmless thing endowed with life.
Here let the gunner's cruel pastime cease,
And every visitant within these bounds
Be true to nature and humanity.

I have written the above to answer merely as a suggestion. I would not recommend this identical piece, but something with a similar moral. Such an inscription, meeting the eye of a visitor near the entrance of the grounds, would predispose him to observe the laws of humanity, and to allow the harmless denizens of the forest to remain unmolested.

DAMP WALLS.

BY S. D. B., N. YORK.

It is a common objection to stone buildings, and sometimes also to those of brick, that the walls are damp and the air within unwholesome. The fact that this is not always the case, is evidence that it never need be so. My attention has just now been called to this subject by reading, in an English architectural work, directions for cementing the sides and top of foundation walls so that water may not be absorbed from them by the superstructure. This is precisely what any one would propose, who believes that moisture will penetrate eight or twelve inches through a brick wall, or "soak up" as many feet from the earth. Absurd as this belief is, there are many, whose opinions are regarded as law, who still assert it. It might be pertinent to ask such persons why, if the walls have such an avidity for moisture, they are so ready to part with it, from their inner surfaces? Why huge granite or marble blocks afford less security against this all-penetrating fluid than thin barriers of brick? Or why cements, which are entirely secure against the passage of water under pressure, offer no obstacle to moisture from absorption? The reply to each of these questions will be found in the answer to another, WHY DOES A PITCHER "SWEAT"?

The remedy for damp walls, then, is not in making them impervious to water so much as in placing a non-conductor of caloric between the interior of the house and the outer air, or the cold masses of stone which draw out the heat from the rooms. One inch of *confined* air is better for purposes of warmth than two feet of solid stone. Walls plastered upon the brick must always be subject to dampness. Even hollow walls, finished in this way, will show where the "headers" are inserted for binding. On the other hand, even a cellar may be so furred off at the sides and provided with double hollow floors as to be warm and dry.

An appreciation of these facts may suggest to some of the readers of the Magazine, improvements in their domestic or farm economy, which in consequence of their careless acquiescence in a false notion, may not have before occurred to them.

IMPROVEMENT AND PRESERVATION OF SPECIES.

BY A. R. P.

Mr. Editor,—You have often set forth in your Magazine the advantages, which may result from careful hybridization; and the gratifying results of thus changing the qualities of vegetable life are seen every year in the new and valuable varieties exhibited. That the combination of the properties of two plants of the same genus, will often produce a variety surpassing, in every desirable point, both the parents, is a familiar fact; and, as a fact, has very wisely and properly stimulated an amount of experimenting from which horticulture will derive unquestionable benefit. Of course, to be of a reliable character, or to come properly under the head of horticultural science, all this must depend upon the skill to devise, and care to carry out the experiments. We have no right to claim any credit for accidental modifications, however advantageous.

But this very facility of procuring new varieties may tend to a neglect of the method of improving existing ones. We do not mean that any one will be so insane as not to perceive that good culture must be the basis of successful hybridization, in so far as the vigor, to say the least, of the offspring, must depend upon the vigor of the parents. Our point is, that vigor, secured by culture, does more than communicate *itself* through the seed. Culture develops the proper or peculiar qualities of the parent; and if, for instance, it be desirable to secure a hybrid, combining the good quality of one pear, with the great size of another, it is particularly desirable that by all the methods known to cultivators, each tree should not only be thrown into its most vigorous condition, but reach the highest development of its kind, before the fertilization of one by the other takes place. This can scarcely be done in one generation.

Like produces like, we say. And varieties of vegetable life have a faculty of improvement, quite analogous to animal life; a tact, that is, for civilization. But for this, the original types would have remained fixed as they were. Under this,

it comes to be regarded as an axiom, that a pure seed of any variety, locks up in itself all the good at which its parent, has arrived by cultivation. So it happens that while good tillage and care cannot materially modify the qualities, which are changed only by mixtures, yet such tillage and care will always tend to develop seed in accordance with the variety, but in a higher state of perfection than the parent stock exhibited; so that the new plant shall start with the advantage which the culture had secured.

If these principles are correct, would not he do a good service for both present and future who should devote himself to the development of old and approved varieties of fruits and vegetables to their highest capacity, by raising successive generations of pure seed from them? We believe that the finest pears, St. Michael, Bartlett, Seckel, Ananas, not to mention others, and all other fruits in the same way, can thus be made superior to what they now are, having all their good, distinctive qualities intensified by new generations; throwing all the advantage and strength of thorough culture into the production of pure seed, again and again, and reaping significant advantage every time, on the basis of the present variety, and without any admixture! Why, good as it is, and we like it as well as any new ones, be content with taking offsets from Hovey's Seedling? Let us have a Hovey's Seedling, Jr., that shall shame the parent by comparison, as no other variety, with different properties however good in themselves, can do. We believe in improvement even to perfection, in each kind, as well as in progress by hybridization.

But, Mr. Editor, if we are not to take care of the seed, and prevent the accidental hybridization by this care, for the sake of the improvement, we must not forget that the facility of hybridization is of great disadvantage with varieties which are dependent upon pure seed for their continuance. The accidental mixtures are once in a while favorable; ninety times in every hundred, they result in a deterioration, or loss of the good, and in the production of no adequate substitute. We can raise trees and shrubs, strawberry vines, &c., and some vegetables, without thinking about their seed-

vessels, and only employing these to change the variety. So there are some seed-producing varieties, which either from local circumstances, or from inherent physiological properties, are very unlikely to become mixed: and for years we may continue to plant, generation after generation, without perceiving any essential modification. But others, like corn, melons, and the cucurbitaceous plants, generally, cannot be kept either pure, or of equal value with the original seed, without great diligence; and the consequence is, that we hear a good deal about the decay of old varieties, which, like the Massachusetts Indians, have intermarried with other races till the aboriginal distinction is nearly lost.

It is familiar to all that the pure Autumnal Marrow squash, (botanically,) can scarcely be purchased in the market, though squashes are every year honestly raised and sold as such. The buyers complain of the deterioration in quality, and the venders say that the kind is "running out." The truth simply is, that other kinds are "running in," and that the seed has not been kept pure, and its very desirable qualities have been too freely exchanged for properties of other squashes. The same is true of the Prince Albert pea—a variety which once challenged competition in earliness, but which, as now raised, seems to have lost this property in a great degree. But we know a person who has so kept this pea by always saving the seed from his first planting, which, blossoming before any other pea, is never mixed, that he finds it as early, to say the least, as any in the market now. The Lima bean is already getting an unwonted earliness, (we call it *acclimation*, and the Massachusetts Horticultural Society puts a bounty upon this property, which may be a substitute for an original one,) and, to our taste, losing its first quality, as it increases in weight and thickness. We think we see a reason for this in the presence of the Horticultural, and other large beans, in gardens. These,—and many more illustrations might be added,—will be sufficient to show that to keep even those varieties, which do not hybridize very readily, and are necessarily grown from seed, we must look after seed-culture a little more carefully.

The preservation and improvement of present species,—the keeping the good ones as good as now, and making them, if possible, better in their own distinct properties,—seem to me, Mr. Editor, considerations worthy of a particular place in the monthly calendar of every lover of horticultural progress. But these conditions can only be answered by diligence, directed by skill, and guided by some knowledge of vegetable physiology. If I have not crowded your pages too much, and if the subject seems to you as important as it appears to me, I should be glad to pursue it farther, and exhibit some methods for carrying into effect the hints here advanced.

We shall be glad to have our correspondent follow up this subject. It certainly is one of importance, and the interest which he takes in it, as well as the experiments he has tried, will enable him to treat it in a thorough manner.—Ed.

POMOLOGICAL GOSSIP.

The Beurre' Clairgeau Pear.—This new pear has fruited the past year in many collections, in different localities, and in various soils, thus affording better evidence of its quality. It is gratifying to state that, so far as we have have had an opportunity to try them, the specimens have, in almost every instance, fully sustained the previous reputation of this very fine variety. They have been large, handsomely colored, and uniformly fair, though nearly all were from small trees, and generally upon the quince stock. From our own collection we had them both from the quince and pear, and in each instance of uniform excellence. We may safely place it among the most valuable of recent accessions to our collections of the pear, and recommend it as worthy of general cultivation.

The California Grapes.—Among the products of California, which were found there when it came into the possession of this country, were the fine grapes which have since

become better known as the Los Angelos or California Mission grapes. Some of the earlier settlers, who, it was supposed, knew something about the fruit, stated they were only the old Spanish grapes, probably carried there after the invasion of the country and its possession by the Spaniards. Perhaps it is so, and that they are only old varieties, but from the more recent accounts which we have of them they appear to grow to a size far surpassing any that have been raised in European collections, for we have no knowledge of any variety producing such immense clusters as are reported to have been grown at Los Angelos. Under the highest culture of the best English grape growers no grape but the Syrian has ever been raised to the great weight of fourteen pounds to the bunch; but it is no uncommon circumstance to find the California grapes of that weight, even under the ordinary vineyard culture. A friend writes us, under date of August last, "that it produces the largest bunches he ever saw;" he had them from *one pound* to *fifteen pounds* "each," and wishes us to name a larger one. He has the Black Morocco, the Black Hamburg and others, and he thinks, "as soon as the newness wears off, cultivators will select the Old California Mission grape in preference to others."

THE NORTHERN MUSCADINE GRAPE.—This recently introduced variety, from the Shaker settlements in New York, which has been highly praised for its superior qualities, was exhibited at a late meeting of the Pennsylvania Horticultural Society, who give the following not very flattering report of it, through the Chairman of the Committee on Fruit:—

"After a careful examination by the taste, &c., (the odor could not be mistaken,) they were clearly of opinion that the plant is a seedling of the worthless Fox grape of our woods, and not deserving a place in any Catalogue as desirable for culture, and no more to be compared to our Isabella or Catawba, than a Chicken grape to the White Muscat of Alexandria, and consider it a duty to stamp with emphatic reprobation any attempt to introduce to cultivators an article so utterly destitute of value as the so-called Northern Muscadine."

THE OLDENBURG NECTARINE.—This is the name of a new English variety, now first introduced to the public. It is said to be a cross between the Elruge and White nectarine, and the fruit was exhibited before the English Pomological Society, October 2, eliciting the following very favorable report:—

"The most interesting part of the exhibition was the examination of a new peach and nectarine, from Messrs. Veitch & Son of Exeter. The nectarine, which was called the Oldenburg, was one of a very superior quality, and contrasted considerably with the fine specimens of the Stanwick in the same collection, which were very inferior in flavor. The Oldenburg is a medium sized fruit, somewhat similar in size to the Elruge. It is ovate in shape, and very much covered with very dark red, except where shaded by the leaves, when it is pale yellow. The flesh separates freely from the stone, is very melting and juicy, with a rich sugary and vinous flavor. It is yellowish white throughout, and even at the stone there is not the slightest trace of red. The fruit seems to keep well after being gathered, and shows a disposition to shrivel, without decaying."

BLACK BARBAROSSA GRAPE.—Fine specimens of this grape were exhibited November 5th, before the British Pomological Society; one bunch weighed 4¾ lbs. The berries were quite black, and covered with a fine bloom. Mr. Taylor stated that he has had this grape in perfection as late as April 28th, and that its true flavor is not acquired before the beginning of January. Its merits as a late grape, therefore, require no comment.

THE BRANDYWINE PEAR.—Mr. Barry of Rochester, in a brief account of a recent visit to the West, speaks of having seen a noble tree of the Brandywine pear, which he was told, bore specimens "that weighed a pound!" From what we saw of the West we have no doubt many pears are produced of much larger size in the fertile soil of that region, than we can grow them at the East, but we were not prepared for such extravagant stories, and are inclined to think the variety was not the Brandywine; its ordinary weight, under the best of cultiva-

tion, being only 5 or 6 ounces. Specimens, therefore, weighing a pound, would be three times their ordinary size. We saw very large Beurré Diels, exhibited at the New York State Fair at Elmira, N. Y., which were brought from Iowa by Mr. Barry, but they were no better than we have seen raised here. Specimens of this pear, weighing 16 ounces each, are produced every year in considerable quantities, and 12 specimens were exhibited at one of the Annual Exhibitions of the Massachusetts Horticultural Society which weighed 14 lbs. If the pear increased in size as much as the Brandywine under western cultivation, the specimens would weigh nearly 3 lbs. each. Before giving such statements, which might mislead cultivators, Mr. Barry should have been certain that the variety was the Brandywine, which we very much doubt.

The Brandywine Cherry, a seedling raised by Jno. R. Brincklé, near Wilmington, Delaware, is described by Dr. W. D. Brincklé in the *Horticulturist*. It was raised from a seed of the White Bigarreau, grown near the May Duke, and is pronounced a "very good" cherry. Size, medium, three quarters of an inch long, and little more than three quarters broad: Skin, brilliant crimson, beautifully mottled and highly polished: Stem, one and a half inches long, slender: Flesh, semi-transparent, tender, very juicy: Flavor, saccharine, refreshing and fine, with just enough subacid to impart sprightliness. Ripens last of June.

New Raspberries.—We had in bearing the past season two new and very fine raspberries, which we think will become very popular sorts. They were received from an amateur cultivator in England, who highly recommended them as new, and of superior quality. We briefly describe them:

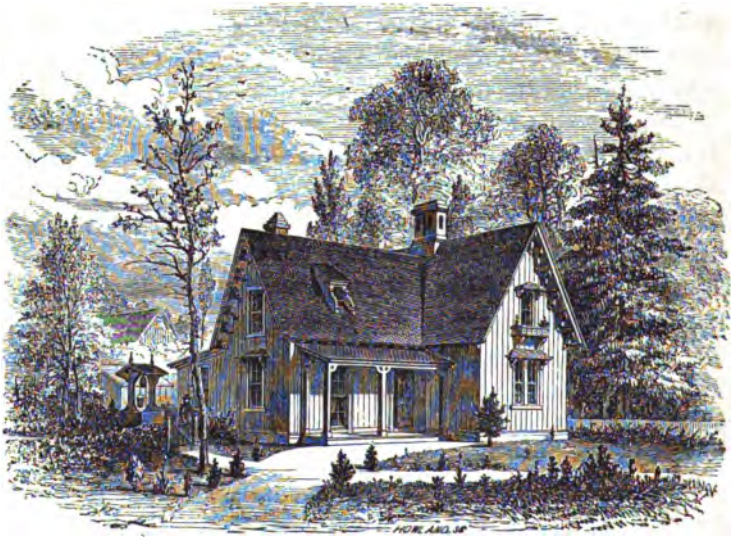
Fillbasket.—A fine large red berry, with a firm flesh and excellent flavor, quite equal to Knevet's Giant, and a stronger grower.

Magnum Bonum.—A white or yellowish fruit of large size, rather firm flesh, and finely flavored, similar to the old White Antwerp, but a great bearer, and possessing a most vigorous habit. It is undoubtedly the best white variety yet produced.

A VILLAGE OR FARM COTTAGE.

BY H. W. CLEAVELAND, W. AND S D. BACKUS, NEW YORK.

In another place we have given a brief review of a volume just published, entitled "Village and Farm Cottages," containing designs for houses of moderate cost. By the kindness of the authors we are enabled to give one of their designs, which will convey a good idea of the character of the work, and its adaptation to the wants of a large class of our population.—Ed.

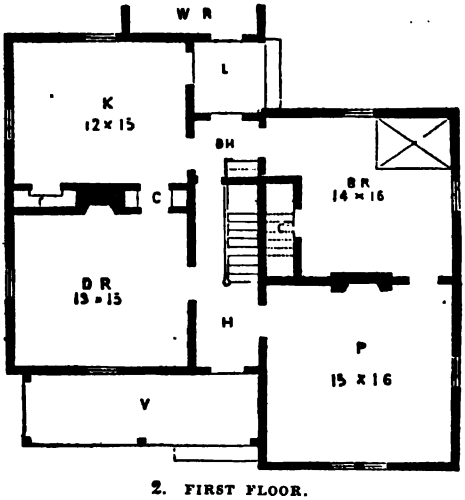


1. A VILLAGE OR FARM COTTAGE.

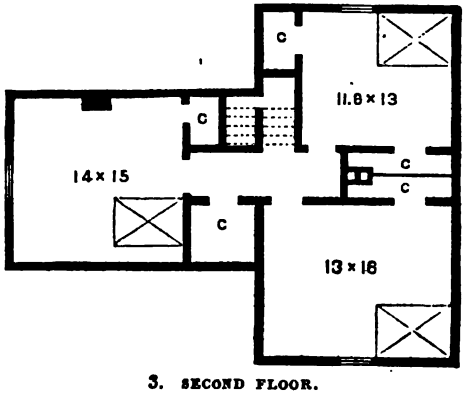
The arrangement of the house before us, (fig. 1,) needs some explanation. The stairs, starting just back of the parlor-door, on the right side of the hall, land on a platform, six feet above the floor, from which they return over the bedroom closet. At the rear of the landing, a partition crosses the hall, with a door at the side of the staircase. The cellar flight, starting in the back hall, goes down under the main stairs, that part of it beyond the platform being incased.

The back porch is open, and the wood-room is beyond it, with kitchen-pantry, and other conveniences.

In the second story, (FIG. 3,) the stairs land over the partition between the parlor and bed-room. There are two pantries between the chambers at the right of the hall—one for each. There is a small one also in the back chamber beyond the stairs. There is a large closet in the hall for bedding, etc., and a small one in the left-hand chamber. If needful, this room may be divided in the centre, and a portion of the hall closet devoted to the front half. The chimneys are of brick, and topped out with the same. The small dormer-windows in the roof are intended for ventilation as much as for light. But they are decorative features also. The window caps are of plank, supported on simple brackets. The front gable window has a flower-balcony. The verandah is solid and plain, and is so finished as to show its construction. Sawn brackets of solid plank adorn the gable cornices, while the extended rafters are made to show along the eaves.



2. FIRST FLOOR.



3. SECOND FLOOR.

The first story is nine feet high. The second is eight

feet six inches to the ceiling, and four feet six inches at the walls.

Though this house would not be out of place on almost any village lot, it is especially suited to one somewhat irregular in surface, or outline. It is well fitted for a corner house, the fronts, seen in the engraving, showing on the two streets. In any event, the lot on which it stands should be of good size.

This plan may be easily spoiled. No alteration should be attempted without good advice. Some practical man may perhaps object to its irregularity. He may wonder that one part of the house stands back of the other. If he prefer the square, dreary, double house, so common formerly, and seen sometimes still, his wish is easily gratified, and for a model he can take a packing-box.

The cost of this house is estimated at $1,625.

PINE WOODS.*

BY WILSON FLAGG.

THE generality of those who are accustomed to observing the aspects of nature will agree that a pine wood, of whatever species it may consist, possesses a character which is altogether unique. Whether it arises from the contrast of light and darkness and a certain harmonious blending of cheerfulness and solitude, or from a happy combination of these with a variety of other circumstances, there is within it and around it, an indescribable charm, which is not so deeply felt in any other description of forest. Notwithstanding the dark shades of its interior, and the sombre character of its dense masses of evergreen foliage, as seen from without—whence it has derived the name of "black timber"—yet the shelter and shade it affords, both in summer and winter, cause it to

* This Essay is intended as an introduction to a series, in which the individual species of our forest trees will be described more in detail, and with more particular reference to their practical value.

be associated with the most agreeable sensations, and with some of our most delightful woodland excursions.

But this dark imperfect verdure may be observed in the foliage of all evergreens, and is as conspicuous in the magnolias, the hollies and evergreen oaks, as in the generality of the coniferous trees. This arises from the coriaceous structure of their leaves, that renders them opake, while the thinness of a deciduous leaf allows the light of the sun to illuminate it with a half-deceptive brilliancy. It may be further remarked that in the early summer, when the blackness of the evergreens is most apparent, they are dressed in the ripened foliage of the preceding year; and this is viewed in contrast with the light vivid greens of the young foliage of the deciduous trees. This difference becomes less and less as the summer advances, until August, when the pines and firs, having assumed their new dress, are nearly as bright as the other woods.

All pine woods, whether the trees of one species or another of this tribe happen to predominate, exhibit very nearly the same general appearances. They differ in degrees of sobriety, in the beauty of their forms and foliage, in the qualities of their terebinthine odors, and in the tones they yield to the passing winds. But all alike produce in the mind of the visitor a sentiment of cheerful melancholy, comfort him by their benevolent protection from heat and cold, and, at all times and seasons, regale his senses with their odors, and gladden his eyes with their deep perennial verdure.

In the pine-wood, nature presents her votaries with one of her most charming features; and with all its advantages of shade and shelter, there is so much that is agreeable and healthful in its emanations, and in the atmosphere that is diffused around it, that she has not denied its benefits to any climate that suffers the extremes of heat and cold. Indeed the pines are found in every latitude, except the equatorial regions, where the broad-leaved palms supply the same enduring shade. Even here the pines are distributed over the cold mountain elevations, that correspond with the higher latitudes. These, like her indispensable blessings, has nature

widely diffused over the earth, so that the inhabitant of the sunny south and of the inhospitable north may derive equal benefit from their protection and their produce. There is hardly any region in which man may not kneel down under the fragrant shade of a pine-wood, and thank the Author of nature for this beneficent gift.

For the beauty and grandeur of individual trees, for gracefulness of foliage, liveliness of verdure, and an easy and flowing symmetry of form, the white pine exceeds all its kindred species. But the balsamic fragrance that is so agreeable to the traveller, when journeying over the occasional sandy tracts and river banks of New England, comes from the less graceful yellow pine. These well-known and delightful odors, that greet our senses at all seasons, but chiefly during the prevalence of a still, damp south wind, are in a different manner as charming as a beautiful prospect, and have accustomed many persons to attach a pleasing interest to these barren plains.

But there are other agreeable circumstances connected with pine-woods. The foliage that drops from them in profusion, after the new growth of leaves has been put forth, covers the ground with a smooth brown carpeting, as comfortable to the footsteps as a gravel walk, while it savors only of nature. This bed of leaves prevents the growth of a tangled underwood, and keeps the spaces clear and open between the trees, whose tall shafts resemble pillars rising out of the floor of a magnificent temple. Hence a pine-wood is pleasantly accessible to the traveller and student of nature; and the scarcity of bushes permits many plants of a peculiar character to thrive and become conspicuous, as they lift up their heads from this matting of decayed leaves. Mushrooms of various species, and of divers fantastic shapes, are frequent as we pass, some spreading out their hoods like a parasol, some with a dragon-like aspect, others perfectly globular, and of a great diversity of hues: and in the deepest recesses of the wood, where the sunshine is not admitted to afford greenness to the herbs, appears that rare genus of plants, resembling the pale and sickly slaves of the mine—the grotesque and singular *monotropa.*

In an old pine-wood our attention is attracted by the number and variety of lichens that incrust the bark of the trees and hang from their boughs. The star-like shield-lichen (*Parmelia*) covers the outer surface of the trees with its leaf-like scales, and the branching threads of the *Usnea* depend from the superior branches. Many other rare species decorate the trees with their tufts, circles and protuberances, and their curiously painted dots and patches. The mosses, however, are checked in their growth, by the foliage that covers the ground. The greenness of a pine-wood is chiefly overhead, and not under our feet. But the few plants, whose habits permit them to thrive here, are the more conspicuous, because they are not obscured by a crowded assemblage of other plants. Hence the little creeping Michella, with its checkered green leaves, its twin flowers, resembling heath blossoms, and its scarlet berries, frequently greets our sight in a dense pine-wood.

In this part of the country, the white pine usually predominates in our evergreen forests, mixed occasionally with yellow pine and hemlock in about equal proportions. As we advance in a northerly direction, the spruces and firs become the most abundant; and as we proceed southward, the yellow pines and junipers are the most common: the southern cypress takes the place of the white cedar, and the white pine yields its sovereignty to the long-leaved pitch pine. In the Southern States, large tracts, called the pine barrens, are covered with a mixed growth of the long-leaved, the loblolly and the variable yellow pine, forming a remarkable feature of the landscape in that part of the country. Their growth is seldom so dense as that of the northern pine regions, and whole forests are often so thinly planted, that one may drive many miles through them on horseback.

In the interior of these pine barrens, there is a breathing of solemnity which is very impressive. Though they do not form so deep a shade as the denser pine-woods of the north, the tall, gaunt and grotesque forms of the trees, the flat, interminable plains on which they grow, the dark drapery of lichens that hangs from their boughs, the silence of their sol-

itudes and the absence of all appearances of human cultivation, yield the whole scene an expression of solemn and melancholy grandeur. The first time I ever visited one of these pine-barrens, was after a long ride by railroad, through the plains of North Carolina. It was night; and I often looked out into the darkness upon the gloomy prospect, rendered still more affecting by the sight of those tall trees that sent up their giant heads almost into the clouds, like monsters that were watching the progress of our journey. The prospect was rendered almost invisible by the darkness, that gave a prominence to the dusky forms of the trees, as they were pictured against the half luminous sky. At length the day began to break, and the morning beams revealed to my sight an interminable wilderness of giant spectres. The cars made a pause at this hour, allowing the passengers to step outside; and while absorbed in the contemplation of these desolate woods,—suddenly the loud, mellow notes of the mocking bird came to my ears,—and, as if by enchantment, reversed the whole character of the scene. The desert, no longer a solitude, all at once inspired me with emotions of unspeakable delight.

Never did I feel so vividly the power of one little circumstance at certain times to turn the current of one's thoughts, and to change the gloom of a prospect into sudden cheerfulness. As one drop of oil cast upon the surface of the waters will quiet the troubled waves, so did the glad voice of this merry bird suddenly dispel all those sombre feelings that had been cherished by dismal scenes and a lonely journey. Morning never seemed so lovely as when the rising sun, with his golden beams and lengthened shadows, was greeted with this warbling salutation, as from some messenger of light, who seemed to announce that nature over all scenes has extended her beneficence, and to all regions of the earth dispenses her favors and her smiles.

As daylight brightened, I took a stroll into the wood; and the pleasant emotions awakened by the song of the mocking bird were increased by the thousands of beautiful flowers which were revealed by the morning. The phlox grew

here in all its native grace and delicacy, where it had never felt the fostering hand of art. Some crimson Rhexias, or deer-weed, were distributed among the tufts of green herbage, like clusters of picotees. Variegated passion flowers were seen on the bare white sands; and a yellow daisy-like flower spotted the whole surface with its golden globes, that seemed almost to illuminate the rough greensward. Here too was the spider-wort of our gardens, in a meeker form of beauty and a paler radiance, growing under the protection of the tall sedges. Above all, the eyes were attracted by the luxuriant vines, that festooned the trees and shrubbery. The bignonia, at this season full of scarlet flowers, covered the trunks of many of these lofty trees with a complete drapery of verdure; others were decorated with the elegant palmate foliage of the climbing fern, (Lygodium) and it seemed as if nature was striving to make glad the heart of man by these gifts of beauty, where the desolate plains promised nothing but gloom and deformity.

The pine-wood is seldom an ornament to the landscape at the South, where the white pine is not found. In the Northern States some of the most delightful wood scenery owes its charms to this tree. There is undoubtedly more grace and beauty of foliage in the hemlock, especially on a near view; but the hemlock will not bear comparison with the white pine, seen at a distance, spreading out its wide horizontal branches on the borders of the forest. The formality of its growth is relieved by the great flexibility of its leaves and branches, which are put into easy motion, without any fluttering, by a gentle wind. When the wind agitates the firs and the spruces, their branches swing awkwardly to and fro, without any corresponding motion of their foliage. This peculiarity in the movements of these trees, affects the sight of every beholder displeasingly, though he may not observe the cause of it, and renders them inferior in life-like beauty to other allied species. The hemlock is the only one of the spruces to which this remark will not apply; and it applies to all the firs. Though the yellow and pitch pines have the same rigidity of foliage, it is rendered less apparent by the

absence of formality in the arrangement of their branches. The white pine and the hemlock have none of this rigidity; and to the flexibility of the terminal branches, and the absence of primness in the larger ones, the hemlock chiefly owes its superior elegance and gracefulness.

The generality of people readily associate the different kinds of trees with the soil and situation in which they have been accustomed to find them. I never see a grove of yellow pines, without thinking of those barren sandy plains, which are their true habitats; and of the slender white birches, that seem to be their inseparable companions. No accurate observer of New England scenery would introduce a juniper (red cedar) into a painting of native landscape, except as the accompaniment of rocky hills and pastures, gray with crispy lichens, and a meagre and stinted shrubbery. The white cedar, on the contrary, being found in half inundated swamps, is allied with mossy fountains, fern-clad recesses, dripping rocks, and rank unprofitable herbs. But the white pine and the hemlock are the beautiful occupants of the most valuable lands, and remind us of plenty and cultivation, as well as of the primitive charms of nature. The other trees of this family, the firs with erect cones, and the spruces with pendulous cones, and the arbor-vitæs, are attached to a more northerly climate, and are associated with our journeyings by the great lakes, and the valley of the St. Lawrence.

It is for the most part only in the borders of a grove, and on the brows of hills, that the individual trees of a pine-wood exhibit their characteristic forms and beauty. More than any other description of trees are the pines and their congeners injured in appearance by growing in a dense forest. Being more prone than the deciduous trees to send up a single undivided shaft, and having no power to mend their shape, by putting out new lateral branches, after the first growth has become abortive, these trees, as commonly seen in the forest, though often superb in their height, have neither comeliness nor grace. The deciduous trees, though affected more or less in the same manner, have a tendency

to subdivide their trunks into several diverging boughs, and exhibit a wider spray than the pines in the same cramped situation. It is also worthy of notice that no other trees are disfigured by so many dead branches as may be found on the shafts of the pines and firs, whose lateral branches invariably perish from any cause that stops their growth.

Yet on account of the symmetry of their elementary forms, the beauty of the coniferous trees is always spoiled by the loss of a limb, as the porch of a temple would be ruined in its proportions, by the removal of one of its pillars. Other trees being less formal and symmetrical, and having the power of readily filling up a vacancy occasioned by the loss of a branch, may suffer considerable mutilation, without permanently losing their beauty. An invariable proportion is not necessary to render them pleasing objects of sight. Thus, from a plantation in which the trees have come up in an irregular manner, and with no arrangement, we may remove any one or more, without deforming its general appearance; but a quincunx or an avenue admit of no vacancies without manifest defacement. Hence we may account for the fact that we so seldom see a pine or a fir tree, unless it be very young, which is not absolutely ugly. All trees are exposed to so many accidents, that those which require symmetry as essential to their comely appearance, are not likely to escape many years without the loss of their beauty. Hence we may also explain why a pine forest has so little beauty when viewed in its interior, where the dead branches protruding from the trunks of the trees destroy that neatness which is so remarkable in the clean shafts of poplars, birches, and other rapidly growing deciduous trees.

In the forms of individual trees, the later grown forests greatly exceed the primitive wilderness. In the latter, well developed trees are rarely seen, and the greater part of them are mere pillars, terminating in a tuft of verdure. After this primitive growth of timber has been felled, the new growth seldom springs up so densely as the first, and many of the trees have an opportunity to extend their lateral branches, and to attain completeness in their forms and pro-

portions. Groves of this description are frequent in our older settlements, where large tracts are sometimes covered with perfect trees. The frequency of these groves, in which nature appears in her wildness, accompanied with a fulness of beauty which is the combined result of accident and undesigning art, yields to the landscape of the older States a charm which is wanting in all the pioneer settlements.

FOUR NEW SPIRÆAS.

BY THE EDITOR.

Few shrubs possess more varied beauty than the spiræas, or better deserve a prominent place in every garden, however small. Perfectly hardy, of dwarfish habit, easily cultivated, and blooming for a long time, they eminently claim the highest distinction among ornamental shrubs. Even our most common species, salicifòlia and tomentòsa, which enliven every neglected meadow with their panicles or dense plumes of white or rosy blossoms, are none the less beautiful because common, and transplanted to the garden, in the company of their foreign co-species, suffer none by comparison with some of them, and serve to heighten the elegance of others. The density of their foliage is not less striking than the variety in their flowers. The lovely prunifòlia, in this respect, holds the same relation to other shrubs that the sugar maple does to other trees. No object in the whole garden is more beauful in the autumnal months than this species. Its foliage, a rich glossy green all summer, then gradually changes to a ruddy hue, and dies off of a mellow, golden or amber tint, which renders it conspicuous above all other shrubs.

The whole number of species that are sufficiently hardy for our climate is upwards of twenty, some of which are natives, and the others from Europe and the East. S. trilobàta Reevesiàna and ariæfòlia are the finest of the older kinds, and should never be omitted in any collection. To these may be added the following, of more recent introduction:—

1. SPIRÆ'A DOUGLASII.—A beautiful species, first discovered and sent home by Douglas from Oregon, and though introduced to American collections five or six years ago, is still rare, and little known. It flowered in perfection with us last summer, and proves to be a much handsomer shrub than we had anticipated from what we saw of it before our specimens attained a vigorous growth. In general appearance it approaches our S. tomentòsa, but far excels it, both in the elegance of its foliage and the brilliancy of its flowers. The leaves are longer and narrower than that species, of a much deeper green above; and beneath, in the place of a dark ferruginous hue, it has the silvery brightness of the abele. The flowers are produced in much the same way, forming dense plumes, but full and round at the top, and not tapering to the end; the color too is of a rich bright rose, exceedingly showy, forming, with its silvery foliage, a brilliant object. It grows only two or three feet high, and blooms late in the season, after many of the other species are out of flower.

It is quite hardy, and grows in any good soil, on a rather dry subsoil; for we have found that when the situation was wet during winter the plants suffered somewhat, losing the extremities of their shoots, and consequently destroying a portion of their bloom buds. One peculiarity in this species is, that the buds begin to open at the top of the spikes, thus bringing the whole in flower nearly at the same time. We esteem it a very fine species.

2. SPIRÆ'A CALLÒSA, (S. Fortunei.)—A more recent species, originally introduced to England by the London Horticultural Society in 1824, but subsequently lost. It has now been re-introduced by Mr. Fortune, who sent home plants from China. It proves to be one of the most distinct as well as one of the most beautiful we possess, having deep red blossoms, which are produced in large broad corymbosæ panicles, as represented in the annexed engraving, (FIG. 4.) The foliage is of a fine dark green, tinged with red, which gives the plant a ruddy aspect. The foliage is somewhat the form of S. bella, being lanceolate, rugose, sharply serrate, tapering to both ends, but entire near the base. It flowers abundantly

all the latter part of the season, from July to October, and its rich ruby corols, neat foliage and dwarfish compact growth render it highly ornamental. Though only recently added to our collections, it appears to be of the easiest cultivation, and quite hardy; but farther experience is needed to see

4. SPIRÆA CALLOSA.

whether, in very severe cold, it may not lose some of the terminal shoots. We have no doubt, however, as it comes from the northern part of China, that it will be as hardy as the S. prunifòlia.

3. SPIRÆ'A BILLARDII.—This is a hybrid production, raised in France by M. Billard, between salicifòlia and Douglás*ii*, both American species. It was introduced the last spring, and flowered abundantly with us all the autumn. In general habit it is similar to salicifòlia, but the flowers, which are produced in terminal spikes, are of a bright rose color, more loosely set than Douglas*ii*, and more compact than salicifòlia. It is very erect in its growth, and continues to display its flowers till late in the season.

It is the finest hybrid of this tribe which has been raised,

and it shows how much may be effected by further hybridization among other species. It is a fine acquisition.

4. SPIRÆ'A REEVESIANA FLORE PLENO.—We describe this on the authority of Mr. Fortune, who discovered it in Northern China, and sent home many plants to England. Our specimens were too weak to flower the past season, but another year we hope to see them in all the beauty accorded to the variety by Mr. Fortune, who says it far surpasses its parent Reeves*iana*, which already disputes the palm for pre-eminence with S. prunifolia. It will form a most valuable addition to any shrubbery or choice border.

FLORICULTURAL AND BOTANICAL NOTICES.

NEW NATIVE RHODODENDRON.—A new variety or species of rhododendron has been discovered on the mountains in Macon Co., N. C., which, in point of beauty and magnificence, "is second only to the Magnòl*ia* grandiflòra." The *Southern Cultivator* gives the following notice of it:—

Some four or five years since, S. McDowell, Esq., rediscovered the species, (said to have been originally found by Frazer,) and for a year or two past has been engaged in propagating them by removing the plants to his garden. The shrub grows to the height of 4 or 5 feet, and is of easy cultivation; the foliage is larger and more rich than that of the Pontic varieties with which we have compared it; the panicles of flowers, too, are larger and more brilliant in color. Mr. McDowell sent us a box of the flowers in June, which we compared with those of pònticum, which we fortunately then had in bloom, and which were inferior to it in all respects. Its color is bright crimson, approaching to scarlet; the panicles are composed of a large number of flowers, from 20 to 30, forming a conical mass, nearly as large as a man's head; the contrast between these and its dark green foliage is very rich and magnificent, and can only be conceived of by being seen.—J. VAN BUREN, August, 1855.

REVIEW.

Village and Farm Cottages. The Requirements of American Village Homes considered and suggested; with Designs for such Houses of moderate Cost. By HENRY W. CLEAVELAND, WILLIAM BACKUS, and SAMUEL D. BACKUS. Illustrated with one hundred Engravings. New York: D. Appleton & Co. 1856.

WE have read this volume with no little interest. There is an important and growing class, whose *home* wants have hitherto received but a small share of attention. Architects seem to have considered it beneath the dignity of their profession to bestow their skill and taste upon dwellings of small or moderate cost; and yet it may be doubted whether these humble dwellings do not present as wide a field for the exercise of their talents as those of a costlier character. There seems to be an opinion, that a poor man has nothing to do with matters of taste. Perhaps not; yet we venture to say, that among our mechanics will be found as true a taste and as just an appreciation of the beautiful, as among any other class whatever. We regard favorably any plan which is likely to increase the home comforts of the working man. Downing and others have given us excellent treatises on Landscape Gardening and Rural Architecture, useful, however, chiefly to the millionaire. A great void was left, which the above volume is well calculated to fill. It is well written, and treats the subject with a downright earnestness, which indicates that the authors have the interest of their readers truly at heart. While particular attention is paid to the house and its details, all the accessories of the home receive a due share of attention; and that portion of the volume devoted to the grounds and garden will be found to be one of its most interesting features, as it ought to be. The work is handsomely printed, and the engravings are in the best style of art. The plans and elevations are admirable of

their kind. While we do not look for much ornament in houses of this class, we find a unity and proportion which cannot fail to produce a pleasing effect. We observe that the authors have made working plans of all the designs in this volume, which they will furnish at a small cost. This circumstance gives an additional value to the work. Altogether, we are well pleased with it, and wish it a full measure of success. We commend it particularly to those for whom it was specially prepared; all, however, will find in it many useful suggestions, and much valuable information.

We present our readers on another page, (30,) with a plan which pleases us much, and which, it will be perceived, is somewhat unique in the irregularity of its exterior form.

Nothing would more improve the aspect of our suburban towns than the erection of dwellings like this and others which will be found in this volume, and we trust its extensive circulation may contribute to so desirable an end.

Massachusetts Horticultural Society.

Annual Meeting, Saturday, October 6, 1855.—In addition to the choice of officers at this meeting, the following members were elected:—Chas. Greig, Somerville; Henry Cormerais, Dedham; C. F. Jones, Roxbury; Geo. B. Cutter, Weston; B. Bradlee, and E. S. Rand, Jr., Boston.

Adjourned four weeks, to November 3.

Nov. 3.—An adjourned meeting of the Society was held to-day,—the President in the chair.

On motion of D. Curtis, it was voted that an appropriate inscription be placed in each volume awarded by the Society, stating the objects for which they were given.

The following members were elected:—Ed. P. Burgess, W. W. Clapp, W. W. Gannett, Saml. Hatch of Boston, Geo. Everett, Chas. Kimball, S. D. Warren, Aziel Low, and Robert Murray, Waltham.

Adjourned two weeks, to November 17.

Dec. 1.—An adjourned meeting of the Society was held to-day, but there being no business of importance it was adjourned two weeks, to December 15.

Dec. 15.—An adjourned meeting of the Society was held to-day,—the President in the chair.

The Committee for Establishing Premiums made their Report, and submitted a Schedule for 1856, which was accepted.

The Executive Committee reported that the sum of $2900 be appropriated for Premiums for the ensuing year.

Dec. 22.—An adjourned meeting of the Society was held to day—the President in the chair.

The Committees on Gardens, Flowers and Vegetables, made their reports, which were accepted.

A Committee consisting of the President, Treasurer and Chairman of the Finance Committee, were authorized to settle with Mount Auburn Cemetery.

Messrs. C. M. Hovey, S. Walker, and Jos. Breck, were chosen a Committee to nominate a Committee of Arrangements for 1856.

The Corresponding Secretary gave notice of the resignation of his office at the end of the year, and Messrs. Austin, Walker and Breck were chosen a Committee to nominate his successor.

Adjourned one week, to Dec. 29th.

Dec. 29th.—An adjourned meeting was held today—the President in the chair.

The Fruit Committee submitted their Annual Report, in which, in addition to the usual premiums, the Committee awarded Isaac Fay the Society's GOLD MEDAL for his seedling strawberry, Jenny Lind, and gave a GRATUITY of twenty-five dollars to George Walsh, for the introduction of a new cherry. After some discussion it was voted that the Report be accepted, except that part of it awarding premiums and gratuities to I. Fay and Geo. Walsh, which was referred back to the Committee.

The Committee of Arrangements submitted their Report.

The Committee appointed for that purpose, nominated F. L. Winship for the office of Recording Secretary.

The Library Committee were authorized to settle with Messrs. Ticknor & Co., for the sale of the Transactions, and receive from them all unsold copies, and place them in the hands of the Librarian.

T. Haley, Watertown, and Mr. Pearmain, Chelsea, were elected members.

Meeting dissolved.

The following are the Reports of the Committees awarding premiums for 1855.

REPORT OF THE COMMITTEE ON FLOWERS.

AWARDING PREMIUMS FOR THE YEAR.

The Committee on Flowers recommend the awarding of Premiums and Gratuities for the year 1855, as follows:—

PELARGONIUMS.—For the six best varieties, grown in pots, to M. P. Wilder, ... $8 00

FUCHSIAS.—For the best six varieties, in pots, to Evers & Bock, . 8 00

For the second best, to E. A. Story, ... 6 00

For the third best, to M. P. Wilder, ... 4 00

GREEN HOUSE PLANTS.—For the best display of not less than ten pots, to M. P. Wilder, ... $15 00
For the second best, to Evers & Bock, . . . 12 00
CUT FLOWERS.—For the best display, to P. Barnes, . . 6 00
For the second best, to James Nugent, . . . 5 00
For the third best, to E. A. Story, ... 4 00
HYACINTHS.—For the best display, to R. M. Copeland, . . 5 00
PANSIES.—For the best twelve distinct varieties, to P. Barnes, . 4 00
HAWTHORNS.—For the best display, to E. A. Story, . . 3 00
HARDY AZALEAS.—For the best display, to E. A. Story, . . 6 00
For the second best display, to J. Kenrick, . . . 4 00
HERBACEOUS PEONIES.—For the best ten varieties, to J. Breck & Son, 5 00
For the second best, to M. P. Wilder, ... 4 00
For the third best, to A. Bowditch, ... 3 00
PINKS.—For the best six distinct varieties, to J. Breck & Son, . 5 00
For the second best, to W. J. Underwood, . . . 3 00
ROSES.—Class I.—*Hardy Roses.* For the best thirty distinct varieties, to M. P. Wilder, ... 8 00
For the second best, to J. Breck & Son, . . . 6 00
For the third best, to Evers & Bock, ... 4 00
For the fourth best, to E. A. Story, ... 3 00
Class II.—For the best twelve distinct varieties, to J. Nugent, . 5 00
For the second best, to J. Breck & Son, ... 3 00
Class III.—*Hardy Perpetual Roses.* For the best ten varieties, to Evers & Bock, ... 5 00
For the second best, to J. Nugent, ... 4 00
For the third best, to M. P. Wilder, ... 3 00
Prairie Roses.—For the best display, not less than six varieties, to W. C. Strong, ... 5 00
For the second best, not less than four, to J. Nugent, . . 4 00
For the third best, not less than four, to S. Walker, . . 3 00
CARNATIONS AND PICOTEE PINKS.—For the best ten varieties, to Evers & Bock, ... 5 00
For the second best, to Hovey & Co., ... 4 00
For the third best, to W. J. Underwood, . . . 3 00
DOUBLE BALSAMS.—For the best eight varieties in spikes, to J. Breck & Son, ... 3 00
For the second best, to J. Nugent, ... 2 00
For the third best, to P. Barnes, ... 1 00
PHLOXES.—For the best ten distinct varieties, to J. Breck & Son, . 5 00
For the second best, to Hovey & Co. 4 00
For the third best, to P. Barnes, ... 3 00
GERMAN ASTERS.—For the best ten varieties, not less than twenty-five flowers, to Hovey & Co., ... 4 00
For the second best, to E. S. Rand, Jr., . . . 3 00
For the third best, to R. Murray, ... 2 00
ANTIRRHINUMS.—For the best display, to E. S. Rand, Jr., . . 5 00

For the second best, to W. T. Underwood, . . . $3 00
For the third best, to P. Barnes, ... 2 00

DAHLIAS.—Division A, Premier Prize.

For the best twelve dissimilar blooms, to H. K. Oliver, . 8 00
Specimen Bloom.—For the best flower, to H. K. Oliver, . . 3 00
Various Colors.—For the best buff, to H. K. Oliver, . . 1 00
For the best tipped, to the same, ... 1 00
For the best dark, to the same, ... 1 00
For the best scarlet, to Hovey & Co., ... 1 00
For the best yellow, to the same, ... 1 00
For the best crimson, to the same, ... 1 00
For the best purple, to the same, ... 1 00
For the best striped, to the same, ... 1 00
For the best rose, to James Nugent, ... 1 00
Division B.—Class I.—For the best twenty-four dissimilar blooms, to H. K. Oliver, ... 7 00
For the second best, to Parker Barnes, ... 5 00
Class II.—For the best eighteen dissimilar blooms, to Hovey & Co., 6 00
For the second best, to Parker Barnes, . . . 4 00

HERBACEOUS PERENNIALS.—For the best display through the season, to P. Barnes, ... 8 00
For the second best, to E. A. Story, ... 6 00
For the third best, to J. Breck & Son, ... 4 00

ANNUALS.—For the best display through the season, to P. Barnes, 8 00
For the second best, to M. Trautman, ... 6 00
For the third best, to E. S. Rand, Jr., ... 4 00

FLOWERING SHRUBS. For the best display through the season, to E. A. Story, ... 8 00
For the second best, to P. Barnes, ... 6 00
For the third best, to T. A. Kenrick, ... 4 00

BOUQUETS.—For the best display through the season, to J. Nugent, 6 00
For the second best, to Galvin & Hogan, . . . 5 00
For the third best, to Mary N. Richards, . . . 3 00

HARDY AZALEAS.—For the best display, to E. A. Story, . . 6 00
For the second best, to J. A. Kenrick, ... 4 00

HAWTHORNS.—For the best display, to E. A. Story, . . 3 00

GRATUITIES.

To J. Breck & Son, for summer phloxes, ... 4 00
To P. Barnes, for cyclamens and cinerarias, . . . 5 00
To Curtis & Lincoln, for anemones,—silver medal.
To Evers & Bock, for acacia, ... 5 00
To J. F. Allen, for Nymphæa cærùlea, ... 5 00
To E. S. Rand, Jr., for Rhododendron, ... 2 00
To J. F. Allen, for Victoria regia at Annual Exhibition, . . 20 00
To C. F. Jones, for Stanhopea tigrinà, ... 5 00
To B. V. French, for Inga pulcherrima, ... 2 00

PREMIUMS AND GRATUITIES DURING THE SEASON.

To Curtis & Lincoln, for bouquets, plants, cut flowers, &c., at the weekly exhibitions, ... $7 00
To Samuel Cabot, for the same, ... 3 00
To W. E. Carter, for the same, ... 9 00
To Thomas Page, for the same, ... 5 00
To Samuel Walker, for the same, ... 6 00
To W. J. Underwood, for the same, ... 8 00
To Hovey & Co., for the same, ... 8 00
To Thomas Smallwood, for the same, ... 2 00
To J. Breck & Son, for the same, ... 14 00
To James Nugent, for the same, ... 17 00
To R. M. Copeland, for the same, ... 1 00
To M. P. Wilder, for the same, ... 4 00
To Evers & Bock, for the same, ... 10 00
To E. A. Story, for the same, ... 16 00
To Martin Trautman, for the same, ... 15 00
To M. B. Williams, for the same, ... 6 00
To Mary R. Richards, for the same, ... 5 00
To A. Bowditch & Son, for the same, ... 5 00
To Parker Barnes, for the same, ... 18 00
To Galvin & Hogan, for the same, ... 2 00
To B. V. French, for the same, ... 4 00
To A. Flagg, for the same, ... 1 00
To Francis Marsh, for the same, ... 1 00
To J. S. Cabot, for the same, ... 2 00
To Charles Copeland, for the same, ... 10 00
To Henry Bradlee, for the same, ... 2 00
To Miss Russell, for the same, ... 4 00
To J. A. Kenrick, for the same, ... 4 00
To John Dunklee, for the same, ... 1 00
To Mrs. W. J. Underwood, for the same, ... 3 00
To Miss Anna C. Kenrick, for the same, ... 3 00
To Bonard Dennis, for the same, ... 2 00
To C. Bullard, for the same, ... 1 00
To J. Hyde & Son, for the same, ... 2 00
To W. C. Strong, for the same, ... 1 00
To Jonathan French, for the same, ... 4 00
To J. C. Chaffin, for the same, ... 2 00
To E. A. Stone, for the same, ... 1 00
To Mrs. William Ashby, for the same, ... 2 00
To E. S. Rand. Jr., for the same, ... 14 00
To M. Duque, for the same, ... 1 00
To Miss E. M. Richards, for the same, ... 2 00
To Henry Vandine, for the same, ... 1 00
To Mary Randall, for the same, ... 1 00

To S. Smallwood, for the same, ... 2 00
To Messrs. Burr, for the same, ... 3 00
To Noel J. Becar, Brooklyn, N. Y., for the same, . . . 2 00

The Awards at the Annual Exhibition have been reported in the last volume (XXI.), page 490.

REPORT OF THE COMMITTEE ON FRUITS,

AWARDING PREMIUMS FOR THE YEAR.

For the best and most interesting exhibition of Fruits during the season, to J. F. Allen, the Lowell Plate, valued at . $20 00
For the second best, to H. Vandine, ... 12 00

APPLES.—For the best twelve Summer Apples, on or before the last Saturday in August, to B. Harrington, for the Williams, . 6 00
For the next best, to M. & F. Burr, for Early Harvest, . 4 00
For the best twelve Autumn Apples, on or before the last Saturday in November, to J. B. Moore, for Hubbardston, . . 6 00
For the next best, to James Eustis, for Gravenstein, . . 4 00
For the best twelve Winter Apples, on or before the third Saturday in December, to E. & J. Lovett, for Ladies Sweet, . 6 00
For the next best, to J. B. Moore, for Golden Russet, . . 4 00

APRICOTS.—For the best twelve, on or before the last Saturday in August, to J. Richardson, ... 5 00
For the next best, to G. L. Baxter, ... 3 00

BLACKBERRIES.—For the best specimens, not less than two boxes, to J. Nugent, ... 5 00
For the next best, to J. Richardson, ... 3 00
For the next best, to W. R. Austin, ... 2 00

CHERRIES.—For the best specimens, not less than two boxes, to M. H. Simpson, ... 5 00
For the next best, to G. B. Cordwell, ... 3 00
For the next best, to William Bacon, ... 2 00

CURRANTS.—For the best specimens, not less than two boxes, to George Wilson, ... 5 00
For the next best, to R. Manning, ... 3 00

FIGS.—For the best twelve specimens, to J. F. Allen, . . 5 00
For the next best, to Apollos Wales, ... 3 00

GOOSEBERRIES.—For the best specimens, not less than two boxes, to Mrs. J. Hovey, ... 3 00
For the next best, to J. W. Foster, ... 2 00

GRAPES.—For the best specimens grown under glass, on or before the first Saturday in July, to Mrs. F. B. Durfee, . . 8 00
For the next best, to Samuel Bigelow, . . . 6 00
For the next best, to J. Breck & Son, ... 4 00
For the best specimens grown under glass, subsequently to the first Saturday in July, to J. F. Allen, . . . 8 00
For the next best, to W. C. Strong, ... 6 00

For the next best, to Apollos Wales, ... $4 00
For the best specimen of Native Grapes, to E. A. Brackett, for Diana, ... 6 00
For the next best, to Diana Crehore, for Diana, . . 5 00
For the next best, to G. B. Cutter, for Isabella, . . 4 00
For the next best, to C. E. Grant, for Catawba, . . 3 00
For the next best, to Francis Dana, for Diana, . . . 2 00

Musk Melon.—For the best Musk Melon, open culture, on or before the last Saturday in September, to B. Harrington, 5 00
For the next best, raised by open culture, on or before the last Saturday in September, to C. Newhall, . . . 3 00

Nectarines.—For the best twelve specimens, to J. F. Allen, . 5 00

Peaches.—For the best twelve specimens, grown under glass, on or before the second Saturday in July, to J. F. Allen, . 6 00
For the next best, to Apollos Wales, ... 4 00
For the best twelve specimens, grown in open culture, to W. Wellington, ... 5 00
For the next best, to C. E. Grant, ... 4 00
For the next best, to Thaddeus Clapp, . . . 2 00

Pears.—For the best twelve Summer Pears, on or before the last Saturday in August, to M. P. Wilder, for Rostiezer, . 6 00
For the next best, to H. Vandine, for Muskingum, . . 4 00
For the best twelve Autumn Pears, on or before the last Saturday in November, to Samuel Leeds, for B. Bosc, . . 6 00
For the next best, to William Bacon, for Swan's Orange, . 4 00
For the best twelve Winter Pears, on or before the third Saturday in December, to J. Plimpton, for Glout Morceau, . . 8 00
For the next best, to Jos. Richardson, for Beurré Rance, . 6 00
For the next best, to H. Vandine, for Beurré gris d'Hiver, . 4 00

Plums.—For the best specimens, not less than two boxes, to H. Vandine, ... 4 00
For the next best, to Josiah Richardson, . . . 3 00
For the next best, to M. H. Simpson, ... 2 00

Raspberries.—For the best specimens, not less than two boxes, to J. W. Foster, for Knevett's Giant, ... 5 00
For the next best, to Cheever Newhall, for Knevett's Giant, . 3 00
For the next best, to L. Jennings, Jr., for Franconia, . . 2 00

Strawberries. For the best specimens, not less than two boxes, to I. Fay, for Jenny Lind, ... 6 00
For the next best, to Geo. Leland, for Hovey's Seedling, . 4 00
For the next best, to W. R. Austin, for Boston Pine, . . 3 00

Gratuities.—To Hovey & Co., for display of strawberries; to J. C. Scott, for Brighton Pine strawberries; to P. R. L. Stone, for Beurré Diel pears; to W. H. Palmer, for Van Mons pears; to Jonathan Fowler, for Beurré Clairgeau pears; to Josiah Richardson, for Beurré d'Anjou pears; to C. S. Holbrook, for grapes; to M. H. Simpson, for grapes, 2d crop, fine exhibi-

tion; to E. W. Bull, for Concord grapes; to C. B. Shaw, for extra fine specimens of grapes; to J. A. Stetson, for fine specimens of apples; to Hovey & Co., for fine specimens of B. Langelier pears; to C. S. Holbrook, for fine specimens of peaches; a silver medal each.

To Levi Jennings, Jr., for Isabella grapes; to John Gordon, for Beurré Diel pears; to J. S. Sleeper, for Dix pears; to S. E. Chubbuck, for St. Michael pears; a bronze medal each.

To Samuel Walker, for Urbaniste pears; Appleton bronze medal.

To E. C. Tracy, for Isabella grapes; to A. Thompson, for Delaware grapes; a silver medal each.

The premiums at the Annual Exhibition have been reported in our last volume (XXI.), page 492.

The preliminary remarks of the Chairman not being ready, will appear in our February Number.

REPORT OF THE COMMITTEE ON GARDENS,

AWARDING PREMIUMS DURING THE YEAR.

On the 22d day of June the Committee on Gardens visited the establishment of Mr. Joseph Breck, situated in the town of Brighton, a few miles from the city of Boston.

Mr. Breck is well known to horticulturists, as the author of an excellent treatise on the Cultivation of Flowers, and as the proprietor of one of the leading seed stores in Boston. Much was expected from his acknowledged skill, taste and perseverance, and the Committee pay him but a proper and deserved compliment in expressing the gratification that rewarded their examination.

The garden of Mr. Breck contains (including the buildings) two and three quarters acres, very irregular in shape. His original purchase, four years since, consisted of a lot of about one acre; on it were all the buildings, green-house, graperies, &c., as they now stand. Two years subsequently he purchased an adjoining lot of one and three quarters acres, then in grass; upon which were about thirty apple trees, some of them quite large, and all in a bearing state with good fruit, but in very bad condition. There were also seven or eight fine Mazzard cherry trees, and some plums. The apple trees have been greatly improved by pruning, scraping, &c., insomuch that the apples are nearly twice as large as they formerly were; yielding last year thirty barrels of fine fruit. The Mazzards have been budded and grafted; and now have fine heads of choice varieties of cherries.

The lot last purchased was bounded for more than thirty rods by an old fashioned stone wall; this has been used for under-drains and foundations for the walks; these walks are five feet wide, and have been made with stones, coal ashes and gravel, and are at all times dry and comfortable. The edgings are mostly of Box, there being about five hundred yards of this plant. A portion of the grass plats have been graded, and fanciful

beds have been cut out of the turf, where there has been a grand display of annuals during the season.

About one hundred and twenty-five pear trees have been planted, upon the lot last purchased, during the autumn of 1853, and the spring and autumn of 1854.

Mr. Breck considers autumn the best season for transplanting most kinds of trees. There were on the first lot about twenty-five pear trees, partly in a bearing state. The very best varieties known among us are embraced in this collection, and no inferior variety has been admitted. There is also a good collection of plums, which have not been seriously affected by the black wart; and about twenty peach trees, which at present look very promising.

We found, too, a good collection of minor fruits; currants, (six or eight varieties). gooseberries, raspberries, blackberries, strawberries, &c.

Mr. Breck cultivates five varieties of hardy grapes, and submits as his experience that these yield much better fruit, when permitted to ramble upon a tree; as the fruit is not so subject to mildew and to insects as when grown on a trellis. This plan may improve the grapes, but we question whether it much advantages the tree.

In the graperies were fifteen or sixteen varieties of grapes; but a great majority were the Black Hamburg, Muscat of Alexandria, White Chasselas, White Frontignan, and Cannon Hall. The Chasselas Musqué, although one of the most highly flavored grapes, Mr. Breck says is inclined to crack, and not being showy, withal, is unpopular at the fruit stores. "My forcing house," adds Mr. Breck, "is a thoroughly constructed building, about fifty feet in length; and had it been set three feet higher, would have been, in all respects, as perfect as could be desired. But the border being low, it is impossible to drain it when the water is high, and consequently to drive the vines very hard. I cannot ripen my grapes before the middle of June." In this house there are twelve vines.

"In my other graperies (eighty-five feet long) I have eighty vines—forty-four under the rafters and thirty-six arranged and trained each side of the centre, making four tiers of grapes. The inner rows are much shaded, but the fruit ripens well, and about as early as those near the glass. This house is divided into two parts by a glass partition, one portion of which is heated up about the 1st of March, ripening the fruit from the 1st to the middle of August. The other portion is without artificial heat, being, to all intents and purposes, a cold house. The fruit in this house begins to ripen from the 1st to the 10th of September, the flavor of which is fully equal to, if not superior to that ripened a month sooner in the other house."

There is also on the premises a small greenhouse, thirty-five feet long, well stocked with plants.

We found about one hundred and fifty choice varieties of hardy perpetual and June roses, and ten varieties of Moss and as many Prairie roses.

Mr. Breck has an extensive collection of phloxes, probably one of the largest and best in the country. A great many varieties have been imported, and many others were raised from seed. "I have amused myself," says

Mr. Breck, "for more than twenty years, in raising seedlings, and from many thousand seedlings have saved, perhaps, fifty varieties as improvements,—altogether I have named and numbered over one hundred varieties. It will be my study, another year, to reduce the number one half."

It would be impossible for us to enumerate all the varieties of Clematis, Pæonies, Spiræas, Delphiniums, Aconite, Iris, Campanula, and other hardy herbaceous plants in this garden.

Among the herbaceous plants there is none that is more attractive than the seedling *Delphinium Breckii*, or No. 1. "It is a plant in bloom through the season, flowers semi-double, and of the most brilliant ultra marine blue; a very hardy plant and most desirable to plant in masses. It does not grow over two feet high. I raised this from seed twelve or fifteen years ago."

Of specimen shrubs and trees, there was a large number, including most of those generally known and many rare sorts.

Mr. Breck planted out over one hundred evergreens, of various sorts, last autumn, late in the season; of which he lost only five per cent.

The grounds, greenhouses, &c., were in good order and condition, and all about the premises bore testimony to the intelligent and active supervision of the proprietor; and the Committee award to Mr. Joseph Breck the Society's premium of twenty-five dollars, for the most economically managed, best cultivated, and most neatly kept garden or grounds through the season.

The Committee also visited the estate of Dr. Durfee, at Fall River. This fine property contains four acres of land, and has been in the possession of the present proprietor about twelve years.

Mr. Durfee has erected on the premises an elegant mansion, wherein he resides, surrounded by all the comforts and conveniences desirable, and dispenses a becoming hospitality.

The growth of the trees and shrubs, on this estate, is remarkably good, and what was twelve years ago a clear, open field, is now a thickly wooded lawn. The evergreens, especially, were very luxuriant.

The walks and borders on the grounds were in unexceptionable condition; and neatness and thriftiness are prevailing characteristics.

The Peach house, which the Doctor has within a few years erected, reflects upon him and his gardener great credit. It excels any other of the kind that we have seen in the State. The building is fifty feet long, and contains ten trees trained upon the walls and roof, and as well, upon an inclined trellis. The trees were vigorous, the foliage was profuse and of fine color. Many of the leaves measured ten inches in length. The fruit was abundant, of large size and superior flavor.

The collections of pears and other fruits was select; and the entire garden in commendable conditiou.

The Committee award Dr. Durfee the Society's premium of twenty-five dollars for the most economically managed, best cultivated, and most neatly kept Fruit garden through the season.

All of which is respectfully submitted, for the Committee, by

SAMUEL WALKER, *Chairman.*

REPORT OF THE COMMITTEE ON VEGETABLES,

AWARDING PREMIUMS DURING THE YEAR.

The Committee on Vegetables for the year 1855 report, that the exhibitions in the Hall the past season have been very good; at many of them very fine, plainly showing an increased interest in this department.

At the Annual Show the display was large, and (in the opinion of your Committee) formed one of the most interesting and attractive features of the exhibition, certainly the most useful. Many of the exhibitors were prevented, from want of room, from making a greater display.

In making up our report we find we have no money to award in gratuities. Your Committee would recommend that the sum of fifty dollars be added to their appropriation to be awarded in gratuities, at the weekly exhibitions, for such objects as they may deem worthy.

Your Committee have received a communication from A. R. Pope, of Somerville, regarding the culture of numerous varieties of the squash, to which he has paid great attention. Some of the varieties of excellent quality.

Your Committee have awarded the premiums according to the published schedule of the Society.

ASPARAGUS.—For the earliest and best, not less than three bunches, to H. Bradlee, ... $3 00

For the second best, to E. W. Bull, ... 2 00

BEETS.—For the best (pure blood beet) during the season, not less than twelve roots, to J. B. Moore, ... 3 00

BEANS.—For the best and earliest peck of string beans, to J. Nugent, 3 00

For the best and earliest Lima beans, not less than two quarts, to B. Harrington, ... 3 00

For the best and earliest variety of shell beans, to B. Harrington, 3 00

CABBAGE.—For the best Drumhead cabbage, during the season, not less than three heads, to J. B. Moore, ... 5 00

For the second best, to J. Crosby, ... 3 00

CARROTS.—For the best exhibited, to J. B. Moore, . . . 2 00

CAULIFLOWERS.—For the best and largest, during the season, not less than three heads, to J. Crosby, ... 5 00

For the second best, to J. B. Moore, ... 3 00

CELERY.—For the best and largest blanched, not less than six roots, to J. Crosby, ... 5 00

For the second best, to B. Harrington, ... 3 00

CORN.—For the best and earliest sweet corn, not less than twelve ears, to H. Bradlee, ... 3 00

For the second best, to J. B. Moore, ... 2 00

CUCUMBERS.—For the best pair under glass, previous to the first Saturday of June, to Dr. Durfee, ... 5 00

For the second best, to M. P. Wilder, ... 3 00

For the best and earliest of open culture, to B. Harrington, . 3 00

LETTUCE.—For the best six heads, before the first Saturday in July, to T. Smallwood, ... 3 00
For the second best, to J. Crosby, ... 2 00
ONIONS.—For the earliest and best three bunches, to J. Crosby, . 2 00
POTATOES.—For the best and earliest peck, previous to August 1, to J. B. Moore, ... 3 00
For the second best, to Josiah Crosby, ... 2 00
PEAS.—For the best and earliest peck in June, to J. B. Moore, for D. O'Rourke, ... 5 00
For the best peck of late, to H. Bradlee, ... 4 00
RHUBARB.—For the largest and best, previous to the first Saturday in July, not less than twelve stalks, to J. B. Moore, . . 5 00
For the second best, to G. Merriam, ... 3 00
SQUASHES.—For the best pure Canada squashes, not less than six in number, to B. Harrington, ... 3 00
TOMATOES.—For the best and earliest, not less than one dozen, to J. Nugent, ... 3 00
VEGETABLES.—For the best display and greatest variety at the weekly exhibitions, during the season, to B. Harrington, . 5 00
For the second best, to J. B. Moore, ... 3 00
For any new variety of vegetable, suitable for the table, and worthy of cultivation, other than seedling potatoes, to F. F. Marsh, for Carrot, ... 5 00
GRATUITIES.—To Joseph Beegan, ... 4 00
To Curtis & Lincoln, ... 3 00
To. J. F. Allen, ... 1 00
To N. Durfee, ... 5 00
To George Leland, ... 3 00
To Hovey & Co., ... 1 00
To A. Hatch, ... 1 00
To H. Bradlee, ... 5 00
To A. D. Webber, ... 1 00

The Premiums, at the Annual Exhibition, have been reported in our last volume, (XXI.,) p. 494.

HENRY BRADLEE, *Chairman.*

Horticultural Operations

FOR JANUARY.

FRUIT DEPARTMENT.

DECEMBER, which opened and continued mild for the greater part, closed up cold and winterish, stopping all outdoor operations for the present. It is rarely that we have so favorable an autumn as that just past; mild, dry, and free from storms of rain or snow; allowing all gardening labors to be

continued up to the close of the year, and affording ample time to complete every operation necessary for the protection or preservation of plants, or fruits. January is a month of comparative leisure, unless where there are extensive forcing houses connected with the garden, when it is as busy a period as later in the year; forcing, in its varied departments, requiring a great deal of attention and continued care. But little can be done in the open air; so little, indeed, that no directions are necessary at this time.

Grape Vines in the earliest houses will now have advanced their shoots two or three inches, and at this period of the year will require constant attention to keep them in a vigorous growing state. The temperature should be gradually increased as the shoots extend, and all sudden changes should be avoided. Tie in the laterals when sufficiently advanced. Syringe in all fine weather, until the buds are nearly ready to open, when it should be discontinued. Vines in greenhouses should now be pruned, if not already done, as they will begin to grow as early as February. Wash with whale oil soap, to kill all insects. Vines in pots, now introduced into the grapery or greenhouse, will produce an early and fine crop of fruit.

Fig Trees in pots, now introduced into the early grapery, will bring forward an early crop.

Peach Trees in pots may be brought into the grapery in a cool place, where they will soon commence growing, and ripen their fruit in June.

Scions of trees may now be cut and placed in a cool cellar, preserved in earth, sand or moss.

Root Grafting may be done now, when it is considered desirable to raise trees in this way. The roots, as soon as grafted, should be set out in boxes of earth, and placed away in a cool cellar.

FLOWER DEPARTMENT.

The mild weather we have already alluded to, has been favorable to the growth and health of all plants, as they have not been subjected to the great fire heat, unavoidable in severe frost. And now, just as the season has arrived for commencing a new growth, they are in the best possible condition for their future health, provided attention be given to potting, watering, &c., in due season. We have on more than one occasion alluded to the practice so common with many gardeners of potting at particular periods, leaving everything till the time arrives, and then performing the work by wholesale, that is, potting up the whole stock of any one plant, whether only half or the whole need it. No greater error is committed in the management of plants, and this practice should not be permitted. Our rule is, to pot every plant, when it needs it, no matter what the season may be, or the condition it may be in, provided it wants more room for its roots. In this way everything is kept in good health, and the houses filled with handsome specimens.

There is plenty to do even at this inclement season of the year; and to commence early is to come out safely in spring. By the middle of the month hotbeds should be put in operation for forwarding seedlings and young stock, and all kinds of propagation may be commenced at this sea-

son. Now is the proper time to look over the whole collection, topdressing, tying up, or repotting all that require it. Numerous plants, which it would require too much room to name, will need attention; but the zealous gardener will understand which they are. All the fine specimens of climbing plants should be headed in, repotted, and be placed in the warmest part of the house till they are well broken. Other things, such as Euphorbias, Cestrums, &c., done blooming, should be placed away under the stage, in a cool place, till time for commencing to grow again.

Camellias will now begin to open their flowers in greater profusion, and become the most prominent objects in the greenhouse. Syringe freely in good weather, and water liberally at the roots. Cuttings may be put in now.

Pelargoniums will now require attention. Repot all the plants intended for early bloom, and carefully train out the branches so as to make bushy plants. Nip off the ends of the growing shoots. Keep in a light airy part of the house, near the glass, and fumigate often, to keep down the green fly.

Azaleas will show signs of a fresh growth, and as soon as they do, water more liberally.

Cinerarias will need another shift, if growing fast. Keep near the glass, and do not neglect fumigation, as the green fly is destructive to the beauty of the plants.

Achimenes and Gloxinias may now be repotted, placing them in the warmest part of the house, and watering sparingly for a week or two.

Fuchsias may be now set to work. Put the plants in a good situation, and as soon as they begin to break into leaf, prune in the straggling shoots, and repot in fresh soil.

Hyacinths, potted in November, now brought into the house, make a fine show next month.

Dielytra spectabilis, in pots, now placed in the house, bloom profusely all the spring.

Heaths and Epacrises, that need it, should now be repotted.

Climbers of all kinds should now be pruned in and repotted.

Roses, in fine growing condition, should now be repotted.

Verbenas, Salvias, &c., should now be propagated for a spring stock, for bedding out.

Chinese Primroses should now be repotted.

Gardenias, for early blooming, should have a high temperature, and plenty of water.

Japan Lilies, potted early, and kept in the house, will now begin to grow, and will require occasional watering.

Cactuses, of the various kinds, should have a dry situation, and be very sparingly watered.

Seeds of various early flowering annuals may be sown this month.

Fumigate once or twice a month to destroy the green fly; and if the red spider is troublesome, use sulphur to get rid of them.

THE REQUIREMENTS OF THOROUGH CULTIVATION.

WHAT are the essentials of thorough cultivation? This is a question repeatedly asked, but not very readily answered; or, if answered, in such a varied and oftentimes indefinite manner, as to puzzle the inquirer. By one, they are the use of fertilizing composts; by another, the aid of special manures; by a third, thorough stirring and pulverization of the soil; by a fourth, liquid manure, or simple irrigation alone; by a fifth, trenching or subsoiling, and draining. Under each and all of these modes satisfactory results have been achieved, which have led those who severally practise them to maintain the superiority of their own system, and to view unfavorably, or with a prejudiced eye, all others. So wedded does each become to his own course of cultivation, that he is often unwilling to admit the success of those who accomplish equally as important results by very different means. Hence the difficulty of laying down definite rules for a course of practice, and also the unbelief in their value, when success flows from quite dissimilar processes of treatment. It is the province of horticultural science to reconcile these differences, if possible, and to point out some principles, or general modes of action, which shall be reliable, varying only as circumstances of soil, location, &c., may render it necessary that they should. Unless horticulture teaches this, it can scarcely be dignified as an art of culture.

Though the principles upon which all gardening operations are conducted and carried out must ever remain the same, the practice may be materially altered, according to circumstances. Thus, in the climate of England, from whose eminent writers we have obtained so many of our ideas of cultivation, the rules laid down are not always applicable here. Our clear and dry atmosphere—our sudden and copious showers, at very irregular intervals—our intense heat and severe cold—our bright sun, and less cloudy sky—very essentially modify or

control our course of proceeding to such a degree that we must, to a greater extent than has generally been supposed or admitted, be governed by rules of our own. So great are the variations of temperature—so different the quality and depth of soils—so uneven the quantity of moisture, even in our own extensive country—that the system of culture required in one locality will not be the same as that in another. Thus, deep tillage is one of the most important operations on the thin soil of our New England hills; while in the fertile regions of the West, whose virgin prairies are one vast deposit of rich and permeable earth, it is almost a superfluous labor, or at least of little or no consequence.

It being admitted, then, as we think it must, that these differences of soil, climate, moisture, &c., do exist, should they not change or modify our system of culture, and render it important that we should ascertain what practice we ought to adopt to attain the highest results? If none is necessary —if we have already exhausted the field of research—we have only to be guided by the wisdom of the past and the thorough experience of the present, trusting to our own intelligence and its application to practice, for the achievement of something more than has yet been accomplished.

Theory teaches, and experience verifies, the fact that all our improved varieties of fruits, trees, plants and vegetables are far removed from the wild type, and need higher culture to maintain their preëminence; and if left to the same neglect of their original progenitors, fall off in their superiority, and become of only mediocre merit: not that they return to their wild state, as has been too often asserted, but that they fail to show the qualities which high culture can alone bring out. Nature, which plants the wild crab, the austere pear, the sloe, the grape, the cherry, the gooseberry, the raspberry, and other fruits, throughout the temperate zone, endows them with the power of abundant produce under almost any condition of growth, for the perpetuation of their species; and they rarely if ever, grow where they may—on rock or hill-side, in field or meadow, in hedge-row or pasture—fail to mature a crop of perfect fruit. No shallowness of soil, no vicissitudes of

weather, materially affect them in their native localities. She adapts them to any situation where accident or chance may throw a stray seed. But when, by the aid of art, their characters have been ameliorated and changed, and that change the result in part of removal to a richer soil and more genial clime, their circumstances are entirely altered; they no longer are nature's creation, but have become tamed and civilized, and require artificial aid to continue their amelioration, just as an animal is domesticated, and needs the continued assistance of domestication to prevent a return towards its native condition.

If our premises are correct, we see then the necessity of a system of cultivation which must be far higher than that which nature affords. The miserable crab is changed to the Monstrous pippin; the choky pear to the noble Beurré Diel; the sour plum to the Washington; the bitter mazzard to the Black Tartarian; the foxy grape to the rich Isabella; the small acid gooseberry to the great Roaring Lion; the diminutive strawberry to the Hovey's Seedling; and so on. Here are widely different characteristics of growth, quality, &c., and will it for a moment be supposed that the ordinary culture of the original type is to maintain and keep in force the precious qualities which years of gradual amelioration have brought about? It is superfluous to say it will not; but that nothing, except the highest intelligence which science brings to our aid, will enable us to possess them in all the excellencies of their improved state.

We have perhaps been led out of our course with this train of thought, and its bearings upon the subject of thorough cultivation; yet, deeming it important that we should illustrate somewhat the position which we take, we have given these examples of what we consider material alterations in the condition of certain fruits, that we might show the necessity of material improvements in their culture.

It is no uncommon thing to hear intelligent cultivators remark, that we already have fruits enough, such as they are, but that we need a different class. "We want," say they, "a pear as large as the Duchess, as hardy as the Seckel, as

prolific as the Bartlett, as sure a crop of perfect fruit and as easily grown as a natural variety." Now, we do not say this is impossible, or that it may not in the course of time take place; but that it is simply absurd, if it means that we are to have all these combined qualities under ordinary modes of cultivation. How can a tree, standing upon a thin soil, swell up a good crop of large fruits during the continuation of our summer droughts, or even without them, when ninety per cent. of this very fruit is nothing but water? We cannot ourselves see how this is scarcely possible. An average weight of fruit may be obtained from every tree, sometimes more and sometimes less; but it would be unnatural to suppose one tree will bear a much greater weight of fruit than another, because they are of larger size, than if they were smaller. What is gained in size is in most instances lost in number, though not always in the same ratio. If, therefore, we expect to raise large fruits on a common soil, we must thin off a greater portion of it, regulating the quantity to the supply of nutriment. This would seem the proper course, in order to produce fine specimens; but even this principle is not always sustained in practice, and for this reason: in a light soil, the tree, cut off from its regular supply of moisture, receives a check, and that which should sustain the fruit now nourishes the wood; for nature steps in, and preserves the life of the tree rather than the growth of the crop; the latter often falls from the branches, the leaves undergo a change, and the tree goes into a state of rest, only to be started again by a fresh supply of heat and moisture.

It was the theory of Van Mons, that "wild pear trees, in a state of nature, and in their native soils, always reproduce seed without any sensible variation," but that it is not so with plants, "born in the state of variation, either in consequence of having changed the climate, the territory, or from some other unknown cause." In the latter case, the tree is domesticated, and the influence of high culture, which is only another word for domestication, continues this variation, and generally for the better up to a certain point, beyond which nature cannot go, and then it takes a retrograde course, or is

enfeebled or diseased. Without admitting whether the latter assumption is correct or not, it is sufficient for our purpose to know that it is to "cultivation" or domestication that we are to look for amelioration or improvement. This amelioration begins gradually; a variety produced by good culture in one generation, is still further improved by high culture in the next; and thus, as in Van Mons's system, the fifth generation, among which were his best fruits, was a great remove from the original. If, therefore, according to this learned pomologist, trees are always produced in a *state of nature* without sensible variation through hundreds of generations, is it not to high culture or domestication alone that we are indebted for all his valuable accessions?

And what is cultivation, as we suppose Van Mons understood it? He states this himself: As soon as his seedlings of the wild trees were up, he cultivated them "*with care, and endeavored to hasten their growth as much as possible, by all means in his power.*" The seeds of the first generation were sown. These he tended with "*equal care.*" The seeds of the second generation, "*being carefully cultivated,*" fructified earlier than the first; the seedlings of the third generation which had a good appearance were sown, and "*the trees managed as carefully as the preceding;*" and the same process was continned to the fifth generation. Is it not apparent to all that the magnificent fruits which he gave to the world were the results of the very highest culture, in the strongest sense in which we can use the word?

Born or raised under such circumstances, can we, ought we to expect to produçe these fine fruits in the excellence in which they came from him, with any less care than he bestowed upon them himself? The response to this will be in the negative. We cannot expect anything of the kind; and to reproduce the large and luscious varieties, the results of his years of unremitted toil and labor, we must set ourselves to work in earnest, and not throw up our hands and demand that we must have another class of equally fine fruits which everybody can grow—of course without any care.

THE LITERATURE OF GARDENING.

BY WILSON FLAGG.

No. I. Price's Essay on the Picturesque.

The revolution that took place in the latter part of the last century in the general style of laying out grounds gave origin to a new species of literature which was unknown to the ancients. The first works of this description which relate to the general beauties of nature and of landscape, and of the art of arranging the different objects of nature and art so as to produce an agreeable picture, were written by Englishmen. The art of embellishing landscape is truly an English art, as the works that treat of its principles are of English origin. Our horticultural magazines and newspapers are full of essays which consist chiefly of the repetition of ideas contained in these works. I have thought, therefore, that I could not perform a more acceptable service to the readers of this journal, than by giving a series of papers, each containing an account and general abstract of some one of the most important works in this department of literature. I shall commence with Sir Uvedale Price's *Essay on the Picturesque*, as one of the most important and earliest works on these subjects. It is not my intention to controvert the ideas and opinions he advances, but simply to explain the objects of the work, and to give a general abstract of its contents.

The "Essay on the Picturesque" was published for the purpose of controverting the general opinions respecting the new style of gardening, introduced by Kent and Brown, and to check some of its excesses in practice. In the first chapter the author states the general reasons for studying the works of eminent landscape painters, and the principles of their art, with a view to the improvement of rural scenery; and to show that these principles were not understood, nor applied by Mr. Brown to his far famed improvements. Formerly the park, with all its timber and thickets, was left in a state of wealthy neglect. As embellishments are now ex-

tended over a whole district, giving a new and peculiar character to the face of the country, the author inquires whether the prevailing system of improvements was founded on any just principles of taste. The first inquiry should be, whether there is any standard, to which, in point of grouping and general composition, works of this sort can be referred; any authority higher than that of the persons who have gained a wide reputation by these "improvements." He thinks there is a higher standard, and authorities of an infinitely higher kind. These authorities are the great landscape painters, who have most diligently studied the beauties of nature, their grand and general effects, their varieties of form and color, and who, by the magic of their art, have fixed upon the canvas all these various beauties.

With respect to the improvement of landscape, the great object of inquiry seems to be, what is that mode of study which will best enable a man, of a liberal and intelligent mind, to judge of the forms, colors, effects and combinations of visible objects, either as single compositions, or as parts of scenery. Such knowledge and judgment, he believes, can never be perfectly acquired, unless, to the study of natural scenery and of the various styles of gardening at different periods, the improver adds the theory at least of that art, "the very essence of which is connection." Whatever partial objections may be made to the study of pictures for the purposes of improvement, the great leading principles of the one art,—as general composition, grouping the separate parts, harmony of tints, and unity of character,—are equally applicable to the other.

The author then proceeds to show that nothing can be more directly at war with all these principles (founded as they are in truth and nature) than the present system of laying out grounds, (Brown's style.) A painter, or whoever views objects with a painter's eye, looks with indifference, if not with disgust, at the clumps, the belts, the artificial water, and the eternal smoothness and sameness of a finished place. A Brownist, on the other hand, considers these as the most perfect embellishments, as the last finishing touches that nature can receive from art, and consequently must think the

finest composition of Claude comparatively rude and imperfect.

We will suppose, for the illustration of this point, that one was anxious to show to the world what a picture of Claude might have been, had it been executed according to the principles of Mr. Brown. What would immediately strike him in one of Claude's pictures, would be the total want of that leading feature of all modern improvements, the clump: understanding by a clump, any close mass of trees of the same age and growth, detached from all others. To improve the picture, he would order several clumps to be placed in the most conspicuous spots, with here and there a patch of larches, to contrast with the firs. His eye being trained in the Brown school, would be shocked to see the natural groups of trees in Claude, some with their stems half concealed by bushes and thickets; others standing alone, but by means of those thickets, or of detached trees, connected with other groups of various sizes and shapes. All this rubbish must be cleared away by the improver, and the ground made everywhere quite smooth and level, and each group left upon the grass perfectly distinct and separate. Similar alterations are made of buildings. The last finishing, both to places and pictures, is water. In Claude, it partakes of the general softness and dressed appearance of his scenes, and the accompaniments have perhaps less of rudeness than in any other master. Yet compared with those of a piece of artificial water, or an improved river, his banks are perfectly savage; parts of them covered with trees and bushes that hang over the water; and near the edge of it tussocks of rushes, large stones and stumps; the ground sometimes smooth, sometimes broken and abrupt, and seldom keeping, for a long space, the same level from the water. A few strokes of the painter's brush would reduce the bank on each side to one level green; would make curve answer to curve, without bush or tree to hinder the eye from enjoying the uniform smoothness and verdure, and from pursuing, without interruption, the continued sweep of these serpentine lines.

The improvements being completed, there is not a person with a painter's eye, who would not be shocked and diverted at the black spots and the white spots, the naked water, the naked buildings, the scattered, unconnected groups of trees, and all the gross and glaring violations of every principle of the art. Yet, alluding to the modern style of landscape gardening, this is truly the method in which many scenes, worthy of Claude's pencil, have been improved. The author concludes that it is impossible that the beauties of imitation should be so distinct from those of reality, that what disgraces and makes a picture ridiculous should become ornamental when applied to nature.

It seemed to Mr. Price, that the neglect which prevails in the works of modern improvers of all that is *picturesque*, is owing to their exclusive attention to high polish and flowing lines, causing them to overlook two of the most fruitful sources of human pleasure—the one, *variety*, the other *intricacy*, qualities that are almost inseparable from one another. *Intricacy* in landscape may be defined "*that disposition of objects which, by a partial and uncertain concealment, excites and nourishes curiosity.*" Upon the whole, it appears that, as intricacy in the disposition, and variety in the forms, the tints, and the lights and shadows of objects, are the great characteristics of picturesque scenery, so monotony and baldness are the greatest defects of improved places. All painters who have imitated the more confined scenes of nature have been fond of making studies from old neglected by-roads and hidden ways: and perhaps there are few spots that have a greater variety of that sort of beauty called picturesque. These are the scenes that form studies for the painter; but seldom or never do they copy a scene from a gentleman's walk or drive, or from any place that has been improved.

Perhaps what is most immediately striking in a lane of this kind is its intricacy. Any winding road must necessarily have some degree of intricacy; but in a dressed lane, every effort of art seems directed against that disposition of the ground; the sides are so regularly sloped, so regularly planted; and the space between them and the road so uni-

formly levelled; the sweeps of the road so plainly artificial; the verges of grass that bound it so nicely edged; the whole, in short, has such an appearance of having been made by a receipt, that curiosity is almost extinguished.

But in these hollow lanes and by-roads all the leading features promote the natural intricacy of the ground. The turns are sudden and unprepared; the banks sometimes broken and abrupt; sometimes smooth, and gently but not uniformly sloping; now wildly overhung with thickets of trees and bushes; now loosely skirted with wood; no regular verge of grass, no cut edges, no distinct lines of separation; all is mixed and blended together; and the border of the road itself, shaped by the mere tread of passengers and animals, is as unconstrained as the footsteps that formed it. Even the tracks of wheels contribute to the picturesque effect of the whole. The lines they describe are full of variety; they just mark their way among trees and bushes, while any obstacle,—a cluster of low thorns, a furze-bush, a tussock, a large stone,—will force the wheels into sudden and intricate turns; at the same time these very obstacles add to that variety and intricacy. Often a group of trees or a thicket will cause the road to separate into two parts, leaving a sort of island in the middle. Of these and numberless other accidents painters have constantly availed themselves.

In forests, it is inconceivable how much the various routes in all directions, through the wild thickets, and among the trunks of old trees, add to the interest and perplexed appearance of the scenery. This effect would be totally destroyed, if the tracks were all smoothed and made level, and a gravel road, with easy sweeps, made in their room. Some of the most striking varieties of form, of color, and of light and shade, are, in these and many other scenes, owing to the indiscriminate tracking of the peasant, nay, to the very decay that is occasioned by it. When opposed to the tameness of the poor pinioned trees of a gentleman's plantation drawn up straight and even together, there is often a sort of spirit and animation in the manner in which old neglected pollards stretch out their immense limbs, quite across one of these

hollow roads, and in every wild and irregular direction. On some, the large knots and protuberances add to the ruggedness of their twisted trunks; in others, the deep hollow of the inside, the mosses on the bark, the rich yellow of the touchwood, and other substances, afford a variety of tints, of mellow lights and shades, such as the finest timber in health and vigor cannot exhibit.

The ground itself in these lanes is as much varied in form, tint, and light and shade, as the plants that grow upon it. The winter torrents, in some places, wash down the mould from the upper grounds, and form projections of various shapes, which are generally covered with the most luxuriant verdure. In other parts they tear the banks into deep hollows, discovering the different strata of earth, and the shaggy roots of trees; these hollows are frequently overgrown with wild roses, with honeysuckles, periwinkles and other trailing plants, whose flowers and pendent branches are singularly wild and beautiful. How different is their appearance from those that are cut into bushes, or crawl along the uniform slope of a mowed or dug shrubbery!

Near the house, picturesque beauty must be often sacrificed to neatness. A gravel walk cannot have the playful variety of a by-road; there must be a border to the gravel, and the sweeps must be regular and formal. Still many of the circumstances which give variety and spirit to a wild spot, might be successfully imitated in a dressed place. Without having water-docks or thistles before one's door, their effect in a painter's foreground might be produced by plants that are considered as ornamental.

There are several ways in which a spot of this kind would probably be improved. Some perhaps would cut down the old pollards, clear the rubbish, and leave only the maiden trees standing; some might plant up the whole; others grub up everything, and make a shrubbery on each side; others put clumps of shrubs or of firs; worst of all, the whole ground would be smoothed and levelled. The moment this mechanical common-place operation, by which Mr. Brown and his followers have gained so much fame, is

begun—adieu to all that the painter admires; to all intricacies; to all the beautiful varieties of form, tint, and light and shade! Every deep recess; every bold projection; the fantastic roots of trees; the winding paths of sheep;—all must go; and in a few hours, the rash hand of false taste demolishes what time only and a thousand lucky accidents can mature.

IMPROVEMENT AND PRESERVATION OF SPECIES.—No. II.

BY A. B. P.

Mr. Editor,—Without going over the ground which was examined in a former communication, it may be well, before accepting your invitation to proceed, to restate at least the general principles upon which we are to work. They are, 1. That every vegetable production is capable of improvement in the peculiar qualities which distinguish it from other productions, not only as an individual, but as the representative of a variety. 2. That, while the dividing lines are properly observed between different *species*, the varieties, which may be regarded as offspring of a common parentage, are disposed to run into each other; and, by mixture in the blossoming, to transmit to young plants raised from seed new qualities, which may be either better or worse than the parents.

The first principle applies as well to varieties usually propagated and perpetuated by offsets, or scions, as to varieties always raised from seed. The second applies not only to sorts which are obviously prone to hybridization, but also to many, if not to all, in which the effect of the mixture is not at once so apparent. And so there are no conditions which do not seem to demand more attention to seed-culture.

The next question is, will every plant produce seed from which may be raised a new plant of the same variety with itself? The readiest answer to this question seems to be, that it would interrupt all our ideas of fitness, and all the

evidence from analogy, if there were any general failure to do so. Such an answer is based upon an obvious resemblance, too, between animal and vegetable physiology, as to the functions of reproduction. It is not necessary to make any account of the exception in the class called *mules*, to distinguish them from reproducing *hybrids*, because they are regarded as anomalies. So we say, that every plant, which is perfect in itself, and is hermaphrodite in blossom, is capable of producing seed, the growth of which will not depart from the original type.

To be convinced of this, it need only be observed how uniformly the production of seeds depends upon positive physiological conditions. Because the operation of these is not always obvious, or is not often looked after, many persons are apt not to perceive the general laws which control all the facts. Yet most persons are familiar with the circumstance that some blossoms bear in themselves both stamens and pistils, while others, which are pistillate only, have answering stamens in other blossoms: that is, that both organs are found, though they may be separated from each other. The larger part of the vegetables fall under the first class; and the cucurbitaceous plants present familiar examples of the second.

It is upon the peculiarity of this physical or sexual construction that the facility of natural hybridization depends; and that facility is greater or less, according to the location of the stamens. And yet, however great this facility, there is nothing in it which in any way contradicts the general law of reproduction, as true in vegetable as in animal life; and under that law it is that we may say unhesitatingly, that every pistil, fertilized only by the pollen from a stamen on the same plant, will be sure, if the seed be perfect, to reproduce a plant according to its kind.

But why then do trees and plants, furnished with blossoms perfect in both parts, so generally fail to maintain themselves in their varieties? Here, again, we have only to recur to the facility of hybridization; and the answer is, that though every pistil may be fertilized only by its proper stamens, there

is no natural protection for it from the contact of flower-dust of stamens of different varieties. This is where human skill and toil commence. The organic capability of reproducing itself was an advantage which the Creator did not overlook in the construction of the variety. But the continuance of a genus or a species, which must depend upon fecundated seeds, was much more essential, as the greater includes the less, than the preservation of any one variety, however good. Hence, that no chance for the loss of the species might occur, the breezes of heaven were appointed as fertilizing agents to bear the light pollen from one tree to another. And winged insects, without number, were also divinely commissioned to aid in keeping up the races of plants. So that, while the possibility of self-propagation by seed is inviolate, it is left to human skill and care to see that the contacts, which are provided by wind and insect, may not prove more than a match for the more natural, or ordinary, provision for reproduction.

It is not designed here to advance anything which common sense will not approve, and a slight study of vegetable physiology will not confirm. And so, for the present at least, we shall not introduce any illustrations of the statements, either from our own experiments, or from the observations of others.

It may be desirable, in this connection, to state some causes which may immediately tend to hybridize a variety, the seeds of which we are seeking to retain free from all admixture. 1. An accidental weakness in the character of its own stamens, which, like Hovey's Seedling, may not be furnished with full anthers. This constitutional difficulty, if carefully noted, may oftentimes be counteracted by seeking out on the tree or plant a single perfect blossom, which may be employed to fertilize others. 2. A great abundance of pollen in the blossoms of a neighboring tree or plant, by means of which the germs are fertilized in advance of the shedding of the pollen from its own anthers. 3. The prevalence of high winds from a particular direction, which may blow away its own, and bring instead pollen from other trees or plants. 4. the construction of the blossoms, as in the squash, so that the fertilizing agent must be mechanical, as by the transfer

of pollen from the stamen to the pistil by bees or insects; in which case the chances are never more than even, and generally much less, of purity of variety in the new individual plant. And, to sum up the whole, it may be added, that whenever, by wind or insect, it is *possible* for pollen to be conveyed from one tree or plant to another, it is *impossible*, without extra care, to keep either kind pure, with any certainty worthy of scientific or skilful culture!

It will be observed that we have left out of view the popular notion, which seems not very creditable to scientific knowledge, that budding or grafting will prevent the production of pure seed. It is very singular that this notion should not have been practically exploded by the observation of those who did not examine the matter scientifically. It may be remarked, however, that if such processes of "working" varieties impair their vigor, so that they then fail to produce perfect blossoms, then, of course, the reproduction is interrupted.

Another question, which I might have been expected to reach in this paper, remains yet to be answered:—What are the means, or methods, by which to counteract the tendency of hybridization? I shall crave your indulgence, Mr. Editor, in your next issue, to reply on this point, rather than prolong the discussion here.

NOTES ON SEVERAL NEW FRUITS.

BY WM. REID, NURSERYMAN, ELIZABETHTOWN, N. J.

I HAVE promised several times to send occasionally, for the Magazine, notes on anything that might be of interest. Your pages will tell how well I have performed my promise. You are aware, however, of the multifarious duties that a working nurseryman has to perform; which will, I trust, be an excuse for not fulfilling my promise. I am, just at the present time, tasting some varieties of winter pears, some account of which may be of interest to those who are planting, or are interested in this pursuit.

Swan's Orange, or Onondaga, has also been better than usual; of a good fair size, melting, about the quality of a good Bartlett. Specimens received from the West some years ago did not prove so good—probably not as well ripened. In season with the Beurré d'Anjou.

Columbia. I had very large and fine, on the quince; ripe the first of December.

Lawrence, with many other winter pears, ripened the early part of December. The trees that I gathered specimens from were worked on the quince; they were only of medium size. I have noted it as being remarkable for sweetness, with a fair supply of juice, rather inclining to be a little gritty at the core, probably not so on the pear root.

Beurre' Haggerston, or, I believe, called by you the Limon pear—I think sent out a number of years ago, by the late Mr. Manning, of Salem—has proved with me superior. I have nothing ripe at its season, that surpasses this variety. Ripens here from the first to the middle of August; grows poorly on the quince, and ought to be grown on pear roots—or, perhaps, double worked, which will in most cases, I think, answer for those varieties that refuse to grow when budded directly on the quince. But we have a good deal to learn on this subject. I am inclined to think, from what little experience I have had with double working, that some of those kinds that refuse to grow with single working, seem to grow but moderately even with double working.

I had almost forgotten to mention Heathcot, which, this season, was unusually fine, ripening all through September. I had few pears in eating at this season that were superior to this variety. It was also more than the usual size, as large as a fine White Doyenné; many of them colored beautifully of a lemon yellow, and perfectly melting and high-flavored.

The Raymond pear was very fine; a native of Maine, somewhat scarce in collections; I suppose, from being rather a slow grower, is seldom cultivated. This variety I received from the late Mr. Manning, a number of years ago; I have not, however, cultivated it for some years. It is a pear that ought to be in every amateur's collection.

The season here has been a very favorable one for fruits, and most of the leading kinds have been good.

Doyenne' d'Hiver, (Nouveau of some.) This promising winter variety I omitted when mentioning the winter pears; it is not yet ripe, except a few specimens, but, from what I have seen of it, I am inclined to think that it will prove a very valuable late fruit, even surpassing E. Beurré; of a fair size, and seems to keep without decaying. I have tasted a few specimens that were ripened in a high temperature, and thought them very superior. This pear has many synonyms.

Glout Morceau I need hardly mention, only to say that, of all the winter pears ripening here at this season, this is by far the most valuable. Good specimens command readily, in the fruit shops in New York, twenty-five cents each. It grows vigorously, and makes a fine hardy orchard tree, either on pear or quince.

I must not forget to mention that cherries the past season were remarkably fine, and continued a long time in season. I have noted three varieties as being very fine, viz.: Belle d'Orleans, Coe's Transparent, and Belle de Choisy. I am inclined to think that Coe's Transparent is one of the best American seedlings that has been raised. Belle d'Orleans has but just come into bearing; it is early, and of very superior flavor, being soft fleshed. But I know of nothing equal to a fine dish of Belle de Choisy cherries, grown on a good healthy tree, not overloaded; it is then of a small size. This variety is not so profitable for market as some of the Heart varieties, such as Black Tartarian, Bigarreau, and May Duke, which will pay a better profit, bearing greater crops, and also carry better. Reine Hortense has had a high reputation; it has borne fine crops. It is also very beautiful, of a fine light red, or amber color. It has never been worth eating with me; only fit for cooking, being extremely acid.

We had also a fine crop of apples this season, though I have nothing worthy of particular notice at present. Monmouth Pippin, in my fruit room, is not yet quite ripe. This is a valuable apple, of good quality, keeping until spring; it is also a very fine looking apple, color greenish yellow, with a red cheek, smooth and fair.

I have extended these hurried remarks to a greater length than I intended when I commenced, but I leave it with you to condense or curtail whatever may be out of place. I purpose sending you a short article on Hedges, method of growing, plants best adapted for that purpose, &c.

THE COGSWELL APPLE.

BY W. CLIFT, STONINGTON, CONN.

A SEEDLING fruit of the first quality is a new creation, as instinct with the divine skill and power as any of the creative acts in the Mosaic record. Though in accordance with natural laws, the advent of the new fruit is a mystery, whose character no amateur will venture to predict. When the new seedling first bursts into fruit, and the specimen is fair to the sight, and, like the original creations, proves "all very good," it is an event worthy of record. It is a much more rare event than the birth of an immortal spirit, and, as the race runs, a much more precious gift to man. It is like the gift of a great and good man to the human family; everywhere exerting a benign influence, and contributing largely to the wealth and happiness of the race.

A good fruit is an individual worthy of a name: its birthplace should be hallowed as a scene of pilgrimage, and its history should be garnered in the archives of pomology.

The Cogswell apple was noticed, Mr. Editor, in your Magazine for June, 1849; but it was there mentioned as an apple of unknown origin and history. As its birth-place and my own were contiguous, and as I have been acquainted with it from my youth up, I will briefly supply the above deficiencies.

The original Cogswell Pearmain tree is still living, upon the farm owned by Frederick Brewster, Esq., in Griswold, Conn., about a mile northeast of Jewett City. The original top long since disappeared, but vigorous off-shoots from the

trunk have produced several new tops, that have waxed and waned. Col. Cogswell, the father of Dr. W. H. Cogswell of Plainfield, Conn., came into possession of this farm about the year 1800. He early discovered, in a small orchard of natural fruit, one tree of marked excellence. The fruit was much admired by friends and neighbors for its fine size, beauty of appearance, and sprightly flavor. Fruit-growers in that town and vicinity procured scions, and multiplied it.

A few years later, Wm. Kinne, Esq., of Plainfield, an educated farmer, went quite largely into the nursery business. He gave to this apple a wide place in his nursery, and sent it out to his customers under the name it now bears, in honor of its discoverer. Later still, it has been extensively multiplied at Mr. Dyer's nurseries in Brooklyn, and spread by him and others throughout the State, and to a considerable extent over New England.

About twenty years ago, a part of Col. Cogswell's sons removed to Ohio, where they now have fine orchards of this apple. It has been spread by them all over northern Ohio, and probably found its way still further west.

In Windham county, Conn., where it has been most extensively cultivated, and is best known, it stands unrivalled as a dessert apple in its season. It is not considered quite equal to the Rhode Island Greening for cooking, as it has less acidity. But this is a recommendation with some economical housewives, as it takes less saccharine matter to make it palatable. It is in its best eating condition from Nov. 1st to Jan. 1st, though it will keep with care until February. It commands a higher price in the markets of Providence and Norwich, where it is best known, than any other apple. It bears abundantly every other year, and the fruit is very uniform in size, large, fair, and beautiful.

As this apple has already received the approbation of our best fruit-growers, nothing further need be said of its excellence. In the lists of the American Pomological Society it stands among those that promise well. At the next session of that Society, it will, without much doubt, be recommended for general cultivation.

Our correspondent is not perhaps aware, that, three years ago, the Cogswell was described and elegantly figured in our "Fruits of America," to which work we admit none but the finest fruits.—Ed.

A FEW HINTS ON FRUIT CULTURE.

BY ANDREW GRAY, SAVANNAH, GA.

Permit me to offer a few remarks upon the management of the orchard, inasmuch as I consider it one of the most important branches of horticultural art. I think there cannot be too much written upon the subject. Fruit trees at the present time are within the reach of every one, and it does seem strange to me that even the owner of the smallest parcel of ground should be without a small collection; for, unlike most other trees, they are both beautiful and useful, and a great many kinds serve the three-fold purpose of supplying food, ornament and shade. How few ornamental trees more beautiful than the orange and cherry? How many objects in nature more pleasing to look on than the apple and peach in full blossom? What more palatable than the melting pear, or the luscious apple and peach? But to my subject: the cultivation of those delicious fruits.

In the first place I would observe, that, to succeed in the cultivation of fruit trees, the soil must be suitable for them, or made so by thorough trenching, manuring, &c. Second, proper sorts of fruit should be selected for the section of country in which they are intended to grow; then planted with proper care, and, after planting, such cultivation bestowed on them as will keep them in a vigorous growing state; pruning, regularly and scientifically, being all important. I do not intend to go over all these points elaborately, as I see by your Magazine that an abler pen has discussed the subject. I shall confine myself to one or two abuses which seem to be very prevalent and very injurious in this country. The first I shall notice, is the very common practice of plant-

ing out trees by merely digging a hole large enough to admit the roots, and in filling it with rich compost or manure, while the surrounding ground is hard, or in a barren state. The consequence is, that the roots do not spread around, or penetrate to sufficient depth, but are confined to a narrow spot of good compost, at least for the first year or two, there to absorb food for the tree. A long drought in the summer is very likely to prove ruinous to the tree; but, if it does survive this abuse, it will be so stunted, that, the next year, it will make little or no progress. If the ground be not thoroughly trenched, it will be better to put the manure some distance from the roots, and cover in the latter with the ordinary soil. The rationale of this will at once appear to every intelligent reader. The roots being the absorbents of food for the plants, they strike out in all directions in search of the necessary elements for supplying the natural wants of vegetation. As soon as they meet with this supply of nutriment, they pass on less rapidly; and the man who digs a "narrow pit" for his fruit trees, and fills it in with rich compost, will find that he surrounds their roots with an almost impenetrable wall: especially is this the case, if his soil be of a hard and retentive nature.

Another very apparent abuse I shall notice—an abuse even more general, and, in this climate, more detrimental, than the above; and, so far as I recollect, I have not met with any writings condemning the practice. It is that of robbing young trees of their lower branches, for three or four feet, leaving a naked stem to be scorched by the rays of the sun. Who, that knows anything of vegetable physiology, would not see the impropriety of thus stripping a tree of its clothing?—laying bare its stem to be burned and blistered, and its vital fluids exuded by the evaporating power of "Old Sol"? But this is not the only evil that arises from this very ridiculous practice of pruning. If it be true that the sap flows up through the medulla, and is elaborated in the leaves, returning down the inner bark, producing a new layer of wood, does it not at once appear that, by the sun's rays striking so powerfully on the stem, the sap is impeded in its progress.

It seems to me that the split and broken surface of the bark, on trees so managed, is caused by an extra evaporation of the fluids through the epidermis, which can only be checked by leaving the protection nature has furnished. If my premises be correct, another injurious effect will become apparent; the branches and leaves being so reduced, less sap is elaborated, the stem and also the roots of the tree suffer in growth, and thus a radical check is given, the first season, that it requires several years to restore to health, if, indeed, it ever recover from the effects of such an ordeal.

The two abuses above mentioned are sufficient to destroy young trees in our American climate, and the planter feels discouraged in his attempts at fruit culture. Let him reflect that "there is no effect without a cause," and but few causes so remote as to elude detection.

That the branches should receive a somewhat corresponding reduction with the roots, I do not deny, (that is, when transplanted,) but it ought to be done judiciously, by shortening in the several branches, of course leaving them down almost to the ground. In such a way, the stem may be sufficiently protected from the evils I have hinted at. In after-pruning, care should be taken never to reduce the branches too much at one time, but gradually produce a stem as the branches expand to shade it.

On this subject I have said as much as I intended, and trust it will meet the approbation of fruit cultivators and orchardists generally.

The above, though intended for the latitude of the South, is equally applicable here, and the remarks of our correspondent on the abuses of pruning deserve especial attention.—Ed.

POMOLOGICAL GOSSIP.

Do Varieties of Fruits Change?—A memoir has recently been brought to the notice of the Academy of Sciences,

by M. Dureau de la Malle, upon the "return of a comparatively modern variety of the pear to one more ancient"; and Dr. Lindley, in commenting upon this, states that "although the essential properties of a fruit have been supposed to be retained by the original seedling, as well as its derivatives except by seed, during the whole period of their existence, the memoir in question "would seem to lead to a different conclusion"; a theory which we did not suppose he would admit, and which, by the evidence, does not appear to be sustained. In truth, the whole matter upon which M. Malle has founded his statement is one of so little weight, that we are surprised his memoir should have been read before such a learned body, and, least of all, considered of any consequence whatever—as certainly it would not have been, if there were many well informed pomologists among its members. M. Malle's discovery is nothing more than what takes place every year, and is so common as to attract no notice, unless among novices in fruit culture. We copy his remarks, as reported in the Chronicle:—

"Return of a comparatively modern variety of pear, *Doyenné galeux*, to one more ancient, the *Doyenné blanc*, otherwise called *Poire de Cire* or *de Belle fille*.—This beautiful glossy pear, of a pale golden yellow color, tinted with vermilion, and which on that account is called *Poire de Belle fille* in Maine and Anjou, is well known. But a handsome exterior is seldom an indication of internal goodness, and this fruit, beautiful as it is, has a soft woolly flesh, like that of a turnip. The Doyenné galeux, on the contrary, is smaller; its skin, which is greenish white, is marked with black specks; its form is not so regular, but its skin is fine, and its flesh is close-grained, rich, juicy, melting, and very sugary, with a peculiar perfume, which is somewhat musky when the skin under one of the specks begins to decay. The fruit will keep for two months, a property which early pears rarely possess. Nevertheless, at Paris the beautiful has excluded the good from the shops of the fruiterers, where I have often sought, but never found it. For the last one hundred and fifty years, scarcely any other variety of Summer Doyenné,

except this excellent pear, which passes for the best of its season, has been propagated in the province of Le Perche.

"The kitchen garden at Landres, in the commune of Mauves, about twenty seconds southwest of Paris, and at an elevation of 393 feet above the level of the sea, was filled, when my father purchased it in 1783, with espalier trees of the Doyenné galeux, trained horizontally. They were all from thirty to fifty years old, and two of them are still alive.

"The late severe winter, 1854–5, in which the extreme lowest temperature was about 6° below zero (Fahr.) at Landres, whilst at the Paris Observatory it was never lower than 11½°, enabled me to determine the period of the introduction of this variety in Le Perche; and it appears from the oldest stem to have been at least 120 years ago.

"My own trees of the Doyenné galeux were covered with flowers this spring; but the late frosts and damp fogs of April and May prevented both of them from bearing fruit. Nature, however, does not readily give in. On the second flow of sap, in July and August, the shoots produced flowers, and six fruits were ripened. These proved to be the true *Poire de Cire*, or Gros Doyenné Blanc, as regards both skin and flesh. The stalk was short and thick, as in all the Doyenné pears. The shape alone was somewhat changed; it had assumed the calebasse form of the Bon Chrétien, and of a bitter variety of the Chaumontelle.

"Now, my two pear trees are at least 120 years old; I may therefore conclude, that in the reign of Louis XV. the Doyenné galeux had existed in the province of Le Perche, and that in all probability it had been derived from the Doyenné Blanc, an older variety, which, on account of its size and beauty, must have been the first cultivated. This sudden return of a variety to its primitive state, as I have shown, appears to be analogous to that which takes place with regard to some of our animals and birds, which have passed from the domestic to the wild state."

Now, we confess we are unable to reconcile all the statements of M. de la Malle. First, he speaks of the Doyenné Blanc, "with a soft woolly flesh like that of a turnip"; sec-

ond, that "no other variety of *Summer Doyenné* except this excellent pear has been propagated in the province of Le Perche"; and third, that his fruits of the Doyenné galeux "proved to be the true *Gros* Doyenné Blanc." What can M. Malle mean?—for every cultivator knows that the White Doyenné is not "woolly fleshed," but finer than the Gray. Neither is it a summer pear:—but, overlooking these inconsistencies, we pass on to the remarkable change which forms the main substance of his memoir, viz.: the produce of some five or six half grown fruits of the second crop of his Doyenné galeux pears, which proved to be the Gros Doyenné Blanc; showing, as he states, the return of a "comparatively modern variety of pear to one more ancient."

The result is simply this: two Gray Doyenné pear trees, (which are the same as Doyenné galeux,) in M. Malle's garden, have all their flowers destroyed by frost. In July and August the new buds form at the ends of the same year's growth, open, and partially mature six fruits, which, because they are yellow-skinned and smooth, he forthwith concludes have changed their character, and taken the original form of the variety from which it was undoubtedly a sport, viz., the White Doyenné.

We see no evidence of this whatever, though it would be nothing remarkable that such changes should occur. It is common with all fruits and flowers obtained in the same manner. The Striped Long Green, the Striped Madeleine, and other varieties of pears originated by sports, often assume the normal character of the parent. The Beurré Diel is sometimes very much russeted, and again entirely smooth and yellow; and so great have been these changes, that they have given rise to new names. We have in catalogues the Passe Colmar and the Passe Colmar doré, both alike; the Beurré gris and Beurré doré, both the same. Hence, we should not be surprised at an accidental change of the Gray Doyenné to the White; but that M. Malle should endeavor to make this out from such imperfect specimens as were produced on his trees from the second crop, and read a memoir on the subject before the Academy of Sciences, is somewhat surprising.

Dr. Lindley concludes his remarks on this memoir in a much more appropriate manner than he commences them, in saying that "the unusual appearance is merely caused by unusual circumstances, of a sudden description, and is only temporary. The individual remains the same; though we admit that it may be so modified, year after year, by circumstances, as to assume the character of an apparently distinct variety, and retain it with some degree of permanence." We can scarcely admit the truth of the latter statement; for, in all the changes that trees undergo by grafting and budding, which are endless, we never yet saw any variety that retained any change made by peculiar causes, after those causes were removed.

THE VERULAM PEAR.—This is the name adopted by Mr. R. Thompson, for an old pear, known as Buchanan's Spring Beurré. He describes and figures it in the *Gardener's Chronicle*, where he states that it was received into the collection of the London Horticultural Society, in 1828, under the latter name, from the nursery of Mr. Buchanan, of Camberwell. In 1827, however, a cutting was received from another source, as the Verulam pear, which subsequently proved, when the tree came into bearing, identical with it; and Mr. Thompson considers it the better name to adopt, as the pear is not properly a Beurré, being crisp, and breaking. We have had this variety in bearing two or three years, under the name of "New Spring Beurré." It is a large, dark russety, late pear, keeping till spring, and though becoming somewhat melting when ripened in a warm temperature, it is surpassed by so many other pears of the season, that it can claim no higher rank than a stewing variety, for which purpose it has been found excellent, "acquiring a fine rose color without the aid of cochineal." The tree is a good grower, and bears an abundant crop, which may be used all through the winter till May. Mr. Thompson considers it a "valuable acquisition."

A MODEL PEAR CULTIVATOR.—A writer who signs his name M. W. STEVENS, and dates from Long Island, passed a "few weeks among the fruit-growers of Massachusetts," the last autumn, when he noticed "that an error prevails among them

in the treatment of their pear trees," and gives them gratuitous advice, through one of the daily journals, in regard to their proper management.

One would suppose, after reading his remarks, that the Massachusetts pear-growers were a very stupid sort of people, and knew very little about raising this fine fruit. Now, we have been vain enough to believe that our pear cultivators were considerably advanced in the raising of this fruit, and that our amateurs had produced splendid specimens. But when Mr. M. W. Stevens comes among us, and gravely reports, "such errors prevail" that we have "almost abandoned their culture," we begin to think we have been altogether too conceited, and know less than we had supposed.

Among other wise things, Mr. Stevens tells us, what we did not know before, that the "Angers quince will not endure the winters of New England"; that it is "the only variety on which the pear succeeds," and that it is more subject to borers than the fruit-bearing kinds (!); with other equally sage opinions.

Seriously, however, we have no patience to deal with such an ignoramus. The probability is that Mr. Stevens does not know one kind of quince tree from another, that he never visited an extensive pear cultivator here, and knows just as much about pear growing in Massachusetts as the man in the moon. Indeed, we should not have noticed his remarks, had they not been pompously paraded in the newspapers, where they might fall into the hands of young cultivators and lead them astray.

The Ohio Nonpareil Apple.—Our correspondent, Dr. J. P. Kirtland, describes an apple under this name, which he says, "excels, in his opinion, any apple he is acquainted with." In size and color it strikingly resembles the Gravenstein. Its flavor is more akin to the Garden Royal. The growth of the tree is as strong, healthy, and luxuriant as the Baldwin. The fruit ripens just before the Belmont. Dr. Kirtland thinks its superior qualities entitle it to general cultivation. It has been long in cultivation, and has been disseminated as the Gravenstein. The description answers very well for the Cogswell, described on another page.

OUR NATIVE PINES.

BY WILSON FLAGG.

I. The White Pine. (Pinus strobus.)

We have already considered the general character of a pine wood. It remains to speak of individual species: of their beauty, their utility, and their value as ornamental objects. The first species of this tribe that presents itself to our notice, is the white pine, (*Pinus strobus*,) which is one of the most beautiful and valuable of our coniferous trees. I shall premise with a few remarks concerning the elementary qualities of a beautiful tree. I consider the beauty of trees as chiefly of a *relative* kind, consisting of an evident adaptedness to certain agreeable purposes, immediately affecting our sensibility and comfort. The idea of any mechanical purposes to which they may be applied, produces no such effect, because we do not identify with the tree, a beautiful and convenient piece of furniture that may be made from it. A tree affects the sight with pleasure, when we observe its evident capacity to afford us shade and shelter; but it seems no more beautiful from our knowledge of the uses to which it may be applied in cabinet making and architecture. There is an exception to this remark in the case of a pine tree, when sending up a tall shaft, which may seem beautiful to some persons from its evident serviceableness for the mast of a ship; for in this case the tree and the mast are identical. Its usefulness for this purpose, as well as for purposes of shade and shelter, when assuming broader shape, is apparent in its physiognomy; but its usefulness for the arts in general, to which it is applied, is not sufficiently self evident. It may be remarked as an unexceptionable law, with respect to a tree, or an animal, or the human species, that those agreeable qualities only constitute a part of the beauty of these respective objects, which are apparent in their outward expression. When we speak of a beautiful tree, we think more of all these agreeable circumstances which are connected with it, than of any positive visual charms, such as we perceive in a

tulip, a dahlia, or an auricula. We look to the density of its foliage, its ample proportions and the spread of its branches; and pronounce it beautiful, according as it seems capable, in a greater or less degree, of contributing to our comfort and pleasure.

Still we delight in seeing these qualities in a tree combined as intimately as nature will permit with *visual* beauty —in other words, with such forms and colors as agreeably affect the eye, without reference to mental associations. Such are its agreeable outlines, the symmetry of its branches, the color of its foliage, on a general view, and the forms of its leaves, on a nearer view. Hence an equal adjustment of parts, a rounded and flowing outline, elegant forms of foliage, fine tints of green, or of other hues, according to the season, and many other similar qualities, are ingredients of positive or visual beauty. Yet I would not venture to assert that even these are not, in a great measure, dependent on association, for their powers of agreeably affecting the sight.

We are still further delighted, if we discern in the forms and appearance of a tree those suggestive qualities that render it *poetical* or *picturesque*. Such are all those shapes that suggest ideas of grandeur, as in the elm; of fortitude, as in the gnarled oak, that has contended successfully with the storms of centuries; of dignity, as in the ash; or of grace, as in the weeping willow. Some of these moral expressions result from a positive quality of the tree; in other cases, they arise from some associations, connected with the name and history of the tree, independent of any actual quality it possesses. Thus the Cedar of Lebanon, on account of its noble proportions, would not fail to suggest the idea of grandeur to the mind of the spectator, whether he knew the tree by name or not; but to one who knew it to be the veritable Cedar of Lebanon, so poetically described in Holy Writ, it would seem the more beautiful from its association with the delightful imagery of the sacred writers. The same may be said of the beech, as a classical tree, with reference to the frequent allusions to it in the poetry of the Romans; and of the yew, with reference to its funereal

uses in Great Britain, and to those pathetic allusions to it in the elegiac poetry of that country.

But if all the above named qualities were present in a tree, it would be greatly wanting in one of the most important requisites of beauty, if it were destitute of motion. It is this, no less than the greenness of its foliage, that gives it the appearance of life, and renders it suggestive of cheerfulness and animation. In this respect there are characteristic differences among trees of different species, all varying in the flutter of their leaves and the sway of their branches. So intimately associated is a tree with its motions when agitated by the wind, that it is difficult to separate the idea of one from that of the other. In this point consists one of the superiorities of a real landscape, considered only as an object of sight, over the finest representations on canvas.

Let us now turn our attention to the white pine, to determine in what proportions these several qualities are united in this tree. At the very first sight of a full grown and well developed white pine, every one is struck with its evident serviceability for all purposes of shade and shelter. It wears the evidence of these qualities in every part of its form and appearance; in its wide-spread and horizontal branches, in the density of its foliage, and its general amplitude. It is not impenetrable to the sunshine, but admits it only in small portions of light, which are constantly flickering with the easy sway of its foliage and branches. One perceives immediately that there is no other tree under whose shade it would be more agreeable to recline on a hot summer's day, or under whose protection one could obtain a greater amount of comfort in winter.

In the second place, we find these circumstances combined with a high degree of positive beauty, arising from the regular symmetrical outline of this tree; the uniform arrangement of its branches, in regular whorls, forming a series of stages, one above another; and, lastly, its tasseled foliage of lively green, in long silky tufts at the ends of the branches, which are so slender as to yield a sort of flowing grace to the whole tree. These tufts, unlike the stiff foliage of other pines, are

many of them gracefully pendulous, and their verdure has a sober, not a sombre tint, without any of that glitter which is perceived in the foliage of some of the firs. The bark of this tree is smooth, and of a dark stone color, until it has attained a large size, when it is finely cleft into irregular longitudinal fissures.

In romantic and picturesque expressions, the white pine falls short of many other trees. It has no historical character; being an American tree, it is celebrated neither in poetry nor romance. It is associated with no classical allusions, like the oak, the beech, and the olive; nor with sacred imagery, like the Cedar of Lebanon; and it has no poetic character, save what it may have derived from its connection with our own personal experience. Hence, it has no factitious charms, and depends on its own intrinsic merits for all the pleasure it affords the sight. But it has certain other suggestive qualities, constituting a high degree of the fourth requisite of beauty, derived from the easy motion of its foliage and the gentle sweep of its smaller branches, and from its association with the delightful influences of a pine wood and its peculiar aromatic odors.

The symmetry, which I have mentioned as one of the beauties of the white pine, is in many trees of the fir tribe a positive defect, when it is combined with stiffness of the smaller branches, and an immoveability of the foliage, causing it to resemble an artificial object. In the white pine, this symmetry, being united with grace and majesty, increases the grandeur of its appearance, like architectural proportions in certain noble edifices. This tree has sufficient amplitude to take off all expression of primness, and a certain negligent flowing of its leafy robes that causes its dignity to seem more easy and graceful. It seems to wear its honors like one who feels no constraint under their burden. There is another circumstance, that seems to relieve the effect of a perfect symmetry of outline. When this tree is branched nearly to the ground, the lowest branches are not so long as those immediately above them, causing the tree to swell out a little below the middle of its height.

Notwithstanding all these desirable qualities, the white pine is far from being ornamental in close proximity to one's dwelling-house. Like other evergreens, it is too sombre for our enclosures. The firs and spruces, which have been very fashionable for this purpose, are still worse. They are admired for their prettiness when young; but one might as well place an artificial tree in these situations as a fir, which is almost too stiff and formal to seem like one of nature's productions. The deciduous trees are the most proper for shade near the house; the evergreens, especially the pines, for protection from the winds, at a little distance from the house.

The white pine has a geographical range over the whole of New England, on the ridges of the Alleghany Mountains as far as Georgia, and across the whole extent of the North American continent, above the latitude of 54°, to the Rocky Mountains. It is a tree of rapid growth, and, with proper care, may be transplanted with perfect success. It prefers a moist situation and a deep sandy loam, and its frequency in any spot indicates a favorable soil for tillage. The wood of this tree is the lightest of all valuable kinds, and its uses are almost numberless. No tree is, perhaps, on account of the variety of purposes to which it is applied, so nearly indispensable. It furnishes the best masts for ships; the most valuable materials for all carpentry and cabinet work, which is to be painted, veneered, or gilded; and for the purposes of the carver. Its good qualities seem to consist in its lightness and clearness, its freedom from warping, and the ease with which it is wrought by the manufacturer.

II. The Pitch Pine. (Pinus rigida.)

This tree differs greatly in its manner of growth from the white pine, and has not so many points of beauty. Its leaves form a larger and more diffuse tuft, and stand more erect, on account of their rigidity. Of the two, this tree would exhibit the denser mass of foliage, were it not for its coarser spray, and the smaller number of its terminal branches. It is remarkable for its shaggy appearance, and it might with.

strict propriety be called the rough pine, for no other tree in the forest exceeds it in roughness, which is manifest in its minutest branches. This tree commonly excites but little interest in the spectator, but some noble forests are formed of it almost exclusively. Such are many of the tracts called the "pine barrens" at the South; and such are the "Dark Plains" near Concord, N. H., consisting of a wide sandy region on the borders of the Merrimac. Only a small portion of the primitive growth is now remaining; but, from the present timber, of twenty and thirty years' growth, some idea may be formed of its original grandeur. Though the roughness of this tree renders it unsightly in a forest, single trees of perfect shape are often seen on the borders of a wood, that, in most points of beauty, will bear comparison with the white pine.

The pitch pine does not give out its branches horizontally. They run up at rather a wide angle with the stem, forming a head that approaches more nearly to the globular shape than that of any other species of the coniferous tribe. The branches are likewise inclined to assume tortuous shapes, and, being large in proportion to the trunk, they give the tree a remarkable appearance of sturdiness and strength. There is no other tree that presents fewer straight lines in its composition, or so seldom a regular curve in its outlines. The former are rarely seen without some contortion, or the latter without more or less interruption. Hence, unlike the generality of coniferous trees, having but little symmetry in its proportions, it may be mutilated to a considerable extent, without losing its characteristic properties of beauty.

In young trees of this species, the whorls of triple branches may be distinctly perceived; but, as the tree increases in size, so many of these branches become abortive, that all regularity of staging in their arrangement is destroyed. The same effects may be observed in the maple, which at first has opposite branches. One of these invariably ceases to grow after the first year, and is finally obliterated; thus obviating that prim regularity which the tree would otherwise exhibit. As the principal branches of the pitch pine are very numer-

ous, with but little space between the original whorls, they seem to proceed from every part of the trunk. Hence, of all the pine tribe, this species shows the least of anything like primness in its shape; and seldom can anything of the spiry form, which is peculiar to the tribe, be traced in its outlines.

Another peculiarity in the habit of the pitch pine, is a tendency to throw out imperfect branches along its stem, from the root upwards, after it has been left alone by the removal of other trees in the forest. These shoots rarely become anything more than tufts, somewhat resembling the growth of small vine-like branches that fringe the tall trunks of the American elm. If I were obliged to plant any tree of this kind in the enclosures of my dwelling-house, I should greatly prefer this tree to either a spruce or a fir. If it be mutilated, it has some power to mend the wound; and, instead of resembling a ragged dandy, as we may say of the firs when they are injured in their growth, it covers itself with green tufts of foliage, and, without any pretensions to regular beauty, it presents a picturesque appearance that is more pleasing to the sight.

I have seen very beautiful trees of an anomalous growth, produced by the loss, when very young, of the leading shoot, both of this and the preceding species. The lateral branches next below the terminal shoot were immediately converted into leaders, and, diverging from each other, yielded the tree an interesting variety of subdivision and outline. In case of such an accident, the white pine, having five branches in a whorl, will sometimes give out four or five leaders; while the pitch pine, having whorls of three, rarely gives out more than two leaders, as the number is seldom full. An American larch was lately shown to me, which had been purposely deprived of its leading shoot, to destroy the formality of its growth. The tree has nothing of its specific pyramidal shape, but a roundness of head, and an expansion, that make it greatly preferable to one that had never been mutilated. One advantage derived from this operation upon the spiry formed trees, is that, with several leading stems, they cannot suffer so much from the loss of a lateral branch as when they have but a single perpendicular shaft.

The pitch pine is found on the greater part of the Atlantic coast of the United States, from Maine to Carolina, increasing in size as it grows farther south. In respect to range, it differs materially from the white pine; the one extending across the continent east and west, the other north and south, on the sandy regions of the coast. Its valuable qualities are durability, and the power of being alternately wet and dry without damage. Hence, it is useful for ship timber, for flooring, for pipes, pumps and water wheels. It is also a valuable tree for planting on dry sandy plains, and by the sea-side, as it is not injured by occasional contact with salt water. Mr. Emerson recommends "that this tree be planted on the extensive sands of Cape Cod, Nantucket, and some other parts, which are not only utterly barren and unproductive, but, by being blown about by the winds, are a serious inconvenience to the habitations of man, and threaten to overwhelm the cultivated spots in their vicinity." A similar species of pine was planted for this purpose, in 1789, on the downs of Gascony, in France, in connection with the seeds of the broom, (Genista scoparia,) to arrest the sands, and keep them from drifting, These plantations now consist of tall and thrifty trees, very productive of tar and turpentine, and valuable for timber; and Decandolle remarks, that he has botanized in these forests, which, twenty years before, were but a waste of drifting sands.

OUR ORNAMENTAL TREES.

BY THE EDITOR.

1. The Ginkgo Tree. (Salisburia adiantifolia.)

We have already announced our intention of describing and illustrating several of the more rare and little known kinds of ornamental trees, which are well worthy a prominent place in every pleasure ground, or in every plantation for picturesque effect. Rich as our country is naturally in the possession of the grandest trees, and rendered still richer

by accessions of hardy exotic species, the attention of planters has been confined chiefly to some dozen or more kinds, as if there were no others deserving their notice. Elms, maples, limes and poplars have been multiplied indefinitely, and the great number of equally beautiful and but little known species or varieties are altogether neglected or overlooked. We have no doubt the want of proper information in regard to them has been the cause, in some degree, of

5. THE GINKGO TREE.

their not having been more highly appreciated; and it is on this account that we now wish to speak in their praise; to make known their claims upon the attention of amateurs and lovers of beautiful trees; to describe the peculiarities of their foliage, flowers, and growth; to give their history and period of introduction, as also their propagation, and the soil and locality best suited to each; with some hints on their grouping and arrangement in plantations for shade or ornament.

The Salisburia (FIG. 5) is one of the rarest of our foreign trees. Though originally introduced as long ago as 1780, into the vicinity of Philadelphia—where the trees are now growing, in good health, and upwards of *seventy feet high*—there is not, probably, a hundred large specimens in the country. The finest are at the Woodlands near Philadelphia, and the next best at the old Bartram Botanic Garden, and other places in that vicinity. In Boston there is a tree of good size, which was transplanted in 1835 from the old residence of G. Green, Esq., to the Common, nearly opposite the State House, where it now stands about fifty feet high, having grown but very little since its removal, at which time it was about forty feet high and three feet in circumference near the ground. There are some smaller trees scattered throughout the country, but generally of only moderate size, and planted out within the past ten or fifteen years, since the Salisburia has attracted more attention as an ornamental tree.

The Salisburia forms a large tree, of a conical form; rising with a straight trunk, regularly furnished with alternate branches; upright at first, but, as they become older, assuming a more horizontal direction; forming, when full grown, a regular, conical, and somewhat spiry-topped head. The bark is gray and slightly rough. The leaves of medium size, somewhat triangular in form, wedge-shaped at the base, broad and obtuse at the ends; smooth, shining and pliant; of a yellowish green, with minute parallel ribs, resembling those of the common fern, (*Adiántum vulgare*,) from whence its specific name. The male catkins, which appear with the leaves in May on the old wood, are about one and a half inches long, and of a yellowish color; the female flowers are inconspicuous, and are borne on separate trees. The fruit or seed is a drupe, about one inch in diameter.

The Salisburia is not a rapid growing tree, attaining the height of ten to fifteen feet in ten years, at which age it is represented in our engraving. Its average growth in Great Britain is about a foot a year; though it is undoubtedly more in this country, the specimens introduced in 1780 being nearly as large as those first raised in England in 1754. The

specimens progress very slowly for the first three or four years, but afterwards grow away with more rapidity.

The Ginkgo is generally supposed to be a native of the island of Niphon and other parts of Japan, and also of China; though M. Siebold states that the Japanese do not think it indigenous, but as having been brought from China at a remote period. M. Burge, who accompanied the Russian mission to Pekin, states that he saw a tree with a trunk 40 feet in circumference. It was not introduced into England till 1754, nor into France till 1780, where it was cultivated in the greenhouse in the Jardin des Plants, till 1792. The first female plant in Europe was discovered near Geneva, by Decandolle, in 1814, and cuttings of it distributed, with which the male plants were grafted; but it was not till 1835 that seeds were produced freely, and since then the principal supplies of trees have been grown from seed; previously, they were raised from layers. The largest tree in Great Britain is growing in London, and was sixty feet high in 1837, at the time Loudon described it in the *Arboretum Britannicum*, to which we are indebted for much of our information.

The Salisburia thrives best in deep sandy loam, on a perfectly dry subsoil; it will not flourish in a wet situation, and in our climate is liable to be winter-killed in such a locality. If in a partially sheltered place, so much the better, though it is perfectly hardy. It is most readily propagated by seeds, which grow freely if planted in a box in a frame or greenhouse, in April or May; and, after remaining in the boxes one year, they may be transplanted to the open ground. They may also be raised from layers, in the ordinary way. As there is no means of detecting the different sexes in the seedlings, where they are known to exist, one may be easily grafted on the other, in the splice manner, with perfect success.

This beautiful tree will for a long time be too scarce to find general introduction into extensive plantations. It may be, however, planted on the lawn, singly, or in groups with other trees. In the former instance, its straight trunk and spiry top, as well as its singular and fern-like foliage, will

always render it one of the most conspicuous and attractive objects.

FLORICULTURAL AND BOTANICAL NOTICES.

NEW NATIVE RHODODENDRON.—In our last number we gave a brief account of a rhododendron, found in Georgia, and supposed to be a new species or variety. For want of room a portion of our remarks were omitted, which we now supply.

The foliage of this rhododendron differs from póntieum, being larger and heavier, having golden yellow footstalks and midrib—the pedúncles to the flowers being likewise of the same color, whilst those of pónticum are green; the under surface of the leaves are nearly white, and of a velvety texture, differing from *R.* máximum and catawbiénse in not becoming ferruginous. No native American flower can excel it in beauty, and it must become a popular acquisition to the shrubbery and flower-garden, being sufficiently hardy to endure any climate.

If Mr. Van Buren has correctly described its *color*, it will be a fine acquisition. In all other particulars we see nothing to distinguish it from the old catawbiénse. Its beauty was compared with the pónticum, which latter was "found inferior in all respects." This is no great praise, for the new hardy hybrids of catawbiénse are as much superior to pónticum, as the latter is superior to the maximum. We hail the introduction of any new species or variety with the greatest pleasure, and trust this will prove as beautiful as the description.

294. LEPTODACTYLON CALIFO'RNICUM *Hook and Arnot.* CALIFORNIAN LEPTODACTYLON. (Polemoniaceæ.) California.

A hardy or half hardy plant; growing two feet high; with rose-colored flowers; appearing in July; grown in loam and heath soil; increased by layers. Bot. Mag., 1855, pl. 4872.

Since our brief notice of this plant in the last volume, (XXI., p. 533,) we have seen a beautiful representation of

it in the *Botanical Magazine*, where it is more fully described.

It forms a low procumbent shrub, with numerous stems, and deeply digitated leaves, remarkable for their narrow segments. The flowers, which are of a bright rose color, are larger than a phlox, and are borne all along the stems in the greatest profusion, from the axils of its fasciculated foliage. It blossoms in July. In general appearance it resembles the Cantua, except in the color of its blossoms. In the nurserie of Messrs. Veitch & Co., of Exeter, it forms a low shrub in the open border; but with us it is doubtful if it would be more than half-hardy, requiring the protection of the frame or greenhouse in winter. In either case, its great beauty will entitle it to all the care that may be bestowed upon it. As it grows abundantly in the mountains of St. Barnardino, we trust seed may be easily collected, and sent home direct, from which a good stock of plants may be more speedily secured.

The genus was established by Hooker and Arnott, though Mr. Bentham considers it rather a section of Gilia; but he adopts their name, and adds to the two other species referred to it, a fourth, viz., the Cántua púngens of Dr. Torrey. (*Bot. Mag.*, Sept.)

295. NICOTIA'NA FRA'GRANS *Hook.* SWEET-SCENTED TOBACCO. (Solanàceæ.) Isle of Pines.

A greenhouse plant; growing three or four feet high; with white flowers; appearing in summer; grown in rich light soil; increased by cuttings and divisions of the roots. Bot. Mag., 1855, pl. 4865.

A fine species of tobacco, "remarkable for the firm, thick, fleshy character of the foliage, for the great size it attains in a state of cultivation, and for the delicious fragrance of the large white blossoms." The flowers bear a great resemblance to a white petunia, but are larger, and have the long tube characteristic of the Nicotianas, and which in this are three inches in length. They appear in large terminal panicles, and are pendent. It is a very showy species, and easy of cultivation. Undoubtedly in our climate, it would form a beautiful summer-blooming plant like the salvias, requiring to be wintered in the greenhouse, or perhaps a frame. (*Bot. Mag.*, Aug.)

296. AKE'BIA QUINA'TA *Decaisne.* FIVE-LEAVED AKEBIA: (Lardizabalaceæ.) Japan.

A hardy or half-hardy climbing evergreen shrub; growing ten feet high; with purple flowers, appearing in summer; grown in sandy loam and peat; increased by cuttings. Bot. Mag., 1855; p. 4864.

Introduced by Mr. Fortune from China, where it forms a slender twining evergreen shrub, with racemes of purple flowers, which appear at the axils of the leaves along its slender stems. If, like the Wistària and many other Chinese plants, it should prove hardy, it will be a decided acquisition, and rank in beauty with the hardy clematises. It was introduced by Dr. Siebold. (*Bot. Mag.*, Aug.)

297. DRYMO'NIA VILLO'SA *Hort.* SHAGGY DRYMONIA. (Gesneràceæ.) Surinam.

A hot-house plant; growing a foot high; with white flowers; appearing in May and June; grown in light peaty soil; increased by cuttings. Bot. Mag., 1855, pl. 4866.

A pretty plant, with the appearance of an achimenes, bearing white flowers from the axils of its densely villous or woolly-covered leaves. It requires a moist stove in the English climate, but with us would flower abundantly all summer under common greenhouse treatment, like the gloxinia. (*Bot. Mag.*, Aug.)

298. STYLOPHORUM DIPHYLLUM *Nuttall.* TWO-LEAVED STYLOPHORUM. (Papaveraceæ.) United States.

A hardy herbaceous plant; growing one foot high; with yellow flowers; appearing in summer; increased by seeds; grown in light soil. Bot. Mag., 1855, pl. 4667.

A native of the Western States, where it forms a small plant, about a foot high, with bipinnatified leaves and yellow poppy-like flowers. It was raised from seed sent to Kew Garden by Dr. Gray, of Harvard University. It possesses but little beauty, and is scarcely of more than botanical interest. (*Bot. Mag.*, Aug.)

299. THERMO'PSIS BARBA'TA *Royle.* SHAGGY THERMOPSIS. (Liguminoseæ.) Himalaya.

A hardy or half-hardy perennial; growing eighteen inches high; with almost black flowers; appearing in June; grown in light peaty soil; increased from seed or division. Bot. Mag. 1855, pl. 4868.

A singular, lupin-like plant, growing erect, with spikes of very dark violet-colored flowers, and whorled, sessile, lanceo-

late and hairy foliage, flourishing in the open air in England, and blooming in June. It is a native of the Himalayas, growing chiefly in the dry valleys, at an elevation of 10,000 to 13,000 feet, and will probably prove hardy with us. Its very long spikes of almost black flowers are extremely showy and attractive. (*Bot. Mag.*, Aug.)

Massachusetts Horticultural Society.

Saturday, January 5th, 1856. The quarterly meeting of the Society was held to-day,—the President in the Chair.

The Committee appointed to nominate a Committee of Arrangements, report the names of the following gentlemen, who were duly elected :—

F. L. Winship, W. R. Austin, E. Wight, C. M. Hovey, W. C. Strong, P. B. Hovey, D. T. Curtis, H. Bradlee, A. Bowditch, A. McLennan, A. C. Bowditch, F. Burr, Jr., E. S, Rand, Jr.

C. M. Hovey, from the Library Committee, made their report, and requested an appropriation of $150. The report was accepted and the amount voted.

F. L. Winship was elected Recording Secretary.

Adjourned two weeks to January 19.

Jan. 19.—An adjourned meeting of the Society was held to-day,—the President in the Chair.

S. Walker, from the Finance Committee, made the Annual Report, which was accepted. We present an abstract of it below :—

RECEIPTS FOR THE YEAR 1855.

Balance in hands of Treasurer,	$940 71
Interest from Life Insurance Company,	220 00
Dividends from Worcester Railroad Company,	318 00
Coupons from Passumpsic Railroad,	300 00
Dividends of Portsmouth and Saco Railroad,	120 00
Rent of Store,	1000 00
Rent of Hall,	595 00
Assessments collected,	1000 00
Receipts from Mount Auburn,	5789 03
Received for Damage by Fire to Hall,	100 00
Rents from new purchase,	775 00
Receipts from Annual Exhibition,	131 02
Payment of 1st Bond of Passumpsic Railroad, for investment of Lyman Fund,	500 00
	$11,788 76

PAYMENTS FOR 1855.

Taxes, $438 90; Insurance, $140 50,	$579 40
Interest on Mortgage,	600 00
Premiums and Gratuities,	2039 00
Salaries,	500 00
Medals,	255 00
Printing, Publishing, &c.	1079 96
Expenses, repairing Hall, Store, &c.	467 50
Books for Library,	101 07
Miscellaneous Expenses,	592 52
Paid Woodbury Mortgage and Interest,	4635 00
Balance in hands of Treasurer,	939 31
	$11,788 76

LIABILITIES.

Mortgage to J. P. Bradlee, for	$10,000 00

Funds and property of the Society the same as in 1854.

The Committee to settle with Mount Auburn Cemetery made their Report as follows:

Receipts for sales of Lots, 1855,	$21,075 00
Deduct for Superintendence,	1,400 00
	$19,675 00
Society's proportion of one quarter,	$4,923 79

A Committee was appointed to draw up resolutions expressive of the sense of the Society upon the death of Rev. Dr. Choules, an honorary member.

Rev. A. R. Pope offered the following Resolutions upon the death of Dr. T. W. Harris, late Professor of Entomology to the Society:—

Whereas, In the recent death of Dr. Thaddeus W. Harris, Professor of Entomology, the Massachusetts Horticultural Society has lost one of its ablest and honored members, and, in common with the community, is most forcibly reminded of his many valuable contributions to science.

Therefore, Desiring to place on the records a permanent recognition of the value of Dr. Harris's services in promoting its objects, and the high appreciation of his disinterested labors for this Society, which were only surpassed by the thoroughness of his researches in several other departments of natural science, it is hereby

Resolved, That we recall with grateful regard the many evidences which Dr. Harris gave in his connection with the Society of his desire to promote its welfare, and discern, in such honorable exertions of a man so eminently qualified to adorn the walks of science, the noblest incentive to a proper devotion to a cause which he aided by his toils and honored by his ability.

Resolved, That the Corresponding Secretary be and hereby is instructed to tender in behalf of the Society, to the family of the deceased, an expression of sympathy and condolence, in the occurrence of an event so afflictive to them.

T. D. Haley, Watertown, was elected a member.
Adjourned two weeks, to February 2d.

The Schedule of Prizes for 1856 has been prepared by the Committee for Establishing Premiums and accepted by the Society, but it varies so little from that of 1855, that we deem it unnecessary to give it insertion.

Obituary.

Death of Dr. T. W. Harris.—It is with feelings of the deepest regret that we announce the decease of Dr. Thaddeus William Harris, late Librarian of Harvard College, and well known throughout the country as one of the most thorough and scientific entomologists of the age. He had been ill some weeks with an attack of dropsy on the chest, and his death took place very suddenly on Wednesday, the 16th of January. His age was 60.

Dr. Harris was the son of the late Rev. Dr. Thaddeus Mason Harris, of Dorchester. He graduated at Harvard College, and received his degree of Doctor of Medicine in 1820. He was engaged in the practice of his profession until 1831, when he received the appointment of Librarian, and immediately entered upon its duties. Previous to this he had been deeply engaged in the study of Entomology, and had written much upon the numerous insects injurious to vegetation. Since his connection with Harvard College he has devoted all his leisure time to the further investigation of the subject, with what success, is best known by his volume upon the "Insects Injurious to Vegetation," prepared under the auspices of the State, two editions of which were published, the last with many valuable additions. Besides this important work, he communicated, from time to time, invaluable information through the various agricultural journals in different parts of the country, and the last article of the kind, we believe, which he ever wrote, appeared in our last volume, (XXI., p. 418,) being a description of the Measure Worm, its habits, and the best means of guarding against its increase. Several excellent papers from his pen have also appeared in our previous volumes. Agriculturists and horticulturists are deeply indebted to his indefatigable labors and scientific research for descriptions of numerous insects, and such accurate accounts of their habits, as to enable them to greatly lessen their destructive ravages.

Dr. Harris, at the time of his decease, was Professor of Entomology to the Massachusetts Horticultural Society, and an honored member of the Boston Society of Natural History, the Massachusetts Historical Society, the American Academy of Arts and Sciences, the Massachusetts Medical Society, and various other societies of distinction.

He was a kind friend, a faithful officer, a laborious student, and a good man. In his death science has lost one of its most devoted friends, and society one of its most useful and honored citizens.

Horticultural Operations

FOR FEBRUARY.

FRUIT DEPARTMENT.

The month of January has been unusually cold, with several severe snow storms. The thermometer has not ranged above the freezing point more than three or four days during the month. The coldest morning was the 9th, when the temperature fell to 8° below zero. The range has been from zero to 10° above, upwards of half the month. A continuation of such unfavorable weather for so long a period, at this season of the year, is rather uncommon, and the labors of the gardener have been more than ordinarily severe. The repeated snows and continued cold have rendered early forcing extremely hazardous, and a change of milder weather is anxiously awaited.

Grape Vines have made slow progress the last month; but, as the sun gets higher, and the days longer, they will improve rapidly. The earliest vines will now be setting their fruit, and by the last of the month will need thinning. Keep up an even temperature, and be more liberal now in the use of water, damping the house in bright weather. Tie in and stop all laterals. Vines in the greenhouse will now begin to swell their buds, and should be frequently syringed to assist them in breaking evenly. Vines in pots, for a succession, may now be introduced into the grapery or greenhouse. Cuttings may be put in now, and the pots placed in a hot bed, where they will soon begin to grow.

Peach and Fig Trees, in pots, may be brought in for a succession.

Scions of trees may now be cut, and preserved, till wanted, in a cool cellar.

Pruning may be commenced now, where there is a great deal to be done.

Root Grafting should be attended to now, as there is other work next month which will occupy all the leisure time.

FLOWER DEPARTMENT.

Colder weather has required the keeping up of large fires, in order to counteract the effects of severe frost. This, together with the darkness of the houses, caused by the accumulated ice from the melting of the repeated snows, has induced a somewhat tender and forced growth, which it should be the endeavor of the zealous gardener to harden off at the earliest opportunity. This can only be done by the admission of all the air possible, as soon as fine weather sets in, still keeping up a moderate temperature.

As the season advances, work accumulates; more potting will need to be done, and propagation will commence in earnest. All the hard-wooded plants, which soon commence a new growth, will need looking over in order to prune them into shape. Seeds of many kinds should be planted, frames

and hotbeds looked after, and all other operations which will hasten spring work should have early attention.

CAMELLIAS will be in their height of bloom at this season; in some houses, where a high temperature is kept up, they will soon begin to grow. In either case the plants will require more moisture. If the bloom is over, syringe freely; but if not, it should only be done occasionally, in very fine weather.

AZALEAS will begin to flower, and may be more liberally watered. Straggling or ill-shaped plants should be headed in as soon as they have done blooming.

PELARGONIUMS will now advance rapidly in growth, and need careful attention. Tie out the shoots as they acquire strength, and cut them away where too much crowded. Water liberally when the plants need it, but do not keep them constantly moist. Young stock should be repotted. Fumigate often, to keep down the green fly.

PANSIES growing in small pots, in frames or in the house, should have a shift into a larger size, especially those intended for blooming. Keep them near the glass. Seeds may be sown now.

FUCHSIAS, which show signs of growing, may now be shaken out of the old pots, and placed in new ones, in fresh light soil. Head in the straggling shoots, in order to make compact plants.

HEATHS AND EPACRISES will begin to grow this month. Keep them where they can have an abundance of air, and repot all which appear cramped at the roots.

MONTHLY CARNATIONS, now throwing up their flowering stems, should be neatly tied to tall stakes. Repot all in good season, and fumigate to destroy the green fly, which is often very injurious to these plants.

JAPAN LILIES, beginning to grow, should have a good place in a cool part of the house, near the glass. Water more liberally as they advance.

ACHIMENES AND GLOXINIAS, started last month, may now have a shift into larger pots. Keep them in the warmest part of the house.

VERBENAS, SALVIAS, PETUNIAS, HELIOTROPES, &c., should now be propagated for a spring stock.

TROPÆ'OLUM TRICOLORUM, and others of the same habit, should be rather carefully watered. Keep the delicate branches tied up neatly to the trellis.

ROSES, wintered in small pots, will soon commence growing, and should have a shift into a larger size.

CINERARIAS, which still require it, should be shifted into larger pots.

DAHLIAS, wanted for very early blooming, may be started in a hot bed, or be potted and placed in any warm part of the house.

ORANGE AND LEMON TREES, now beginning to grow, may have occasional waterings with liquid manure.

As the season advances, hotbeds may be made up, for bringing forward more rapidly many kinds of plants, especially such as are wanted for bedding out. They give an opportunity to start many things which require a higher temperature than the greenhouse affords. Do not forget to fumigate often at this season.

RAIN—EVAPORATION AND FILTRATION.

The excessive droughts that have been experienced in our latitude for the past five years, defeating the exertions of cultivators, and disappointing them in the produce of their crops, have induced them to direct their attention to the means by which they may better guard themselves against the disastrous effects resulting from the occurrence of such dry seasons. Some energetic amateurs we can call to mind, who have already anticipated this, and through the assistance of hydraulic rams, artesian wells, and other appliances, have at their command the means of materially lessening the evils that result from severe or protracted droughts. They have acted wisely, and their foresight will undoubtedly be accompanied with rich results. But all are not so advantageously located as to avail themselves of such artificial aids for irrigation or moisture. And where the soil is not naturally such as will retain moisture, all the resources that art can supply, such as trenching, subsoiling, mulching, &c., must be resorted to, in order to avert the destruction which must naturally follow the continuance of our summer droughts.

That these droughts are likely to occur, not successively, perhaps, but periodically, and with more or less severity, appears almost certain, if we may judge from the experience of the past. The attention which has recently been given to the fall and distribution of rain, and the careful observations of scientific men in all sections of the country, especially appointed by government for that purpose, show in what unequal quantities our rains fall in different and even slightly remote portions of the Union. Thus, according to tables recently published in the "Army Meteorological Register," an important work, issued by order of the War Department at Washington, the quantity varies from twenty-five inches to sixty inches, yearly; twenty-five being the average for the Plains beyond the Rocky Mountains; forty-two for the

New England States, and sixty for the Lower Mississippi Valley. Its distribution is very irregular, as may be seen by equally accurate tables, published in the Transactions of the New York State Agricultural Society, viz.:—

"At Rochester, N. Y., rain and snow falls 31.20 inches, and in 177 different days in the year. Hamilton, on high land, has 34.51 inches of rain and snow which fell in 152 different days. Ithaca has only 30.78 inches, and only 139 rainy and snowy days. Though less rain falls in a year at Rochester than at Hamilton, there are twenty-five more wet days at the first named place than the latter. The quantity of water that falls in the course of the year is no sure indication of distribution through the season."

From tables published in our Magazine, carefully made up by Henry Ropes, Esq., of Salem, Mass., (Vol. XX., p. 124,) from an average of 10 years, from January, 1841, to January, 1851, the number of rainy and cloudy days were 109 in the year. Consequently, at Rochester, N. Y., 31 inches of rain are distributed over 177 days, while at Salem, (or Boston,) 42 inches are distributed over only 109 days, showing that at Rochester they have five days on which rain falls to three in Boston or Salem. These are some of the more important facts in regard to the fall and distribution of rain in our extensive country.

And this brings us to the subject of our article, which is a brief notice of a valuable paper published in the Transactions of the New York State Agricultural Society, by Mr. George Geddes, Civil Engineer, upon Rain, Evaporation and Filtration, and their bearing on agricultural pursuits. The Society's gold medal was awarded for this essay, which not only supplies many important facts in regard to the fall and distribution of rain, but gives these facts a practical application, by showing the agriculturist and the horticulturist how they may guard against unusual droughts, which in our climate are so likely to be of constant occurrence. We propose to give the views of Mr. Geddes, which are deserving of the greatest attention, and to offer some remarks, in order to show that

a constant and regular supply of moisture is indispensable in all our gardening operations, to attain the best results :—

"The great importance of seasonable showers to the farmer is well understood; and perhaps there would be no one better indication of the agricultural capacities of a country than the records of the rain gauge—giving the number of rainy days in each month, with the quantity of water that fell, for a few successive years.

"When the spring commences, the earth is usually saturated with water to a great depth, and so low down that the springs are all discharging their greatest quantity. Wheat sown the fall before, and well rooted, starts forward vigorously before the ground can dry up, and a few showers in May and June insure a large growth. Not so with corn, and the other spring crops. Dry weather must commence before the ground is in a condition to receive them; and as they take the whole season to grow and ripen, many seasonable showers are necessary to their production with success. The corn crop may be quite unpromising the last day of June, and yet on the first day of September the whole aspect may be changed. July and August, if warm and wet, make a crop of corn in this State. Wheat is better off if these months are dry and comparatively cool. So it rarely happens that both corn and wheat succeed fully in the same year—but sometimes they do.

"When the frost leaves the ground in the spring it is full of water, and a cubic foot of this saturated earth is to water in its specific gravity as five to three; dried to the moisture suitable to have seed put in it, it *loses* one twelfth of its weight; when perfectly dried it loses one third.

"Mr. Dalton, in making his experiments, came to the conclusion that when it had lost one sixth of its weight, by drying, it was not too dry to support vegetation. When it had lost two ninths it appeared like top soil in summer. Hence every foot of earth in depth, so saturated, contains seven inches of water, and it may part with a quarter of its water, or even one half, and not be too dry for supporting vegetation. This is the fund of water with which we start

in spring—say three inches in depth, within one foot of the top of the ground. Roots of plants go down lower than this, if the soil is mellow and not flooded with water.

"Mr. Dalton's experiments, made with a cylindrical vessel, ten inches in diameter, three feet deep, filled with gravel, sand and soil—having a discharge pipe at the bottom, by which to measure the quantity of water that runs off, and which gave perfect drainage—the top of the soil being covered with grass, the whole buried so that the top was even with the ground, shows that earth that is moderately moist will take up three inches of water without carrying it beyond the point of saturation. This amount had in the preceding dry month been taken up by the plants and evaporated, and, without making the soil too dry, had so drawn upon it that it could imbibe three inches, which fell in four days.

"Ordinary ploughing does not bring into use more than six inches in depth of soil; extraordinary ploughing may reach as low as one foot. Subsoiling and trenching to the depth of three feet would give to the plants all that Mr. Dalton claims for his experiments.

"Where ground is cultivated only six inches deep, it only holds, subject to the purposes of vegetation, (if no account is made of water rising up through the hard earth beneath,) one inch and a half of water. If cultivation goes down one foot, the quantity of available water is doubled. If the soil is broken up still deeper, though it may be that the roots of the plants may not go down beyond a foot, yet the water from lower down will rise up by capillary attraction, and supply the evaporation from the superior parts of the soil. So it results that while one foot of earth will hold, for the uses of vegetation, three inches of water, three feet will hold so much that it can part (without becoming too dry) with three inches, and then receive, in the course of a four days' rain, another three inches, without overflow, or discharging from the drains beneath.

"A soil that holds no water for the use of plants below six inches, will suffer from drought in ten days in June, July or August. If the soil is in suitable condition to hold water

to the depth of three feet, it would supply sufficient moisture for the whole months of June, July and August.

"Rain is not the only source of supply of moisture to plants; they absorb moisture from the air; and dews, which, though they cannot be measured in the rain gauge, assist very much in time of drought. But dews and atmospheric moisture are not like rain—susceptible of being treasured up in subterranean reservoirs, by deep tillage—and therefore have not been taken into consideration in these investigations. It may, though not necessary to the inquiries now before us, be well to observe that Bishop Watson made some experiments that went to show that 'during the time of bright hot sun, when there had been no rain for a month, the evaporation from grass was at the rate of .035 inches in twelve hours. Another experiment, one day after a thunder storm, gave .087 in twelve hours. The mean is .061 inch.' The evaporation of .035 in twelve hours in a drought of a month's continuance, gives, allowing the evaporation to go on only during twelve hours in each day for a month, 1.05 inches. This must have been principally supplied to the plants during nights, in the form of vapor and dew, as it is not probable, after a month without rain, that earth tilled to the ordinary depth would afford much more moisture than it received from these sources.

"It is calculated in England that the ordinary summer run of streams does not exceed ten cubic feet per minute per square mile, and that the average for the whole year due to springs and ordinary rains is twenty feet per minute per square mile exclusive of floods, and assuming no very wet or high mountain districts, (Breadmore, p. 34,) which is equal to about four inches over the whole surface. If we add to this the six inches that are supposed to run off in freshets, we have ten inches discharged in the course of the year by the streams. The whole filtration was 11.29 inches, 10.39 in the winter, and .90 in the summer. The remainder, 1.29 inches, is supposed to be consumed by wells and excessive evaporation from marshes and pools, from which the discharge is obstructed; by animals, and in various other ways.

These calculations were made from experiments running through eight years, in which the average fall of water was only 26.61 inches per annum. When the results derived from them are applied to our average fall of 35.28 inches, we have for the water that constitutes the summer flow of our streams 13.25 cubic feet per minute per mile of the country drained, and for the average annual flow exclusive of freshets 26.50 cubic feet per mile per minute. That is to say, of the 35.28 inches of water that falls in the course of the year, 5.30 run away in the streams as the average annual flow, 7.95 run away in the freshets, and 20.47 evaporate from the earth's surface, leaving 1.56 for consumption in various ways.

"The annual fall of water in England is stated by Mr. Dalton to be 32 inches. In this State it is 35.28 inches. The evaporation from water surface in England is put by Mr. Dalton at 44.43 inches. The fall is less, and the evaporation is less in England than here, and the fall in each case bears the same proportion to the evaporation, very nearly; and it appears that the experiments made on the two sides of the ocean result in giving very nearly the same percentage of drainage. In England it is 42.4 per cent., in this State it is 44.1. In England the experiments were made on a limited scale compared with ours, but the results agree so well that great confidence may safely be placed in them.

"In a country thoroughly underdrained to the depth of three feet, and deeply subsoiled, neither droughts nor excessive rains are much feared by the cultivator; a large proportion of the water that falls is treasured up in his subterranean reservoirs, and any excess is carried off by his drains. Some districts of country have a soft, mellow soil, just clay enough, and just sand enough to give it proper consistency, and then this soil underdrained perfectly by an open gravel or shelly rock."

No better evidence can be given than that by Mr. Geddes of the importance of trenching, or subsoiling, and draining, as the only means of storing up a supply of moisture for use during the continuance of longer or shorter droughts. This

he explains in connection with Mr. Dalton's experiments, and shows that a soil *six inches deep* will suffer from drought in ten days, in June, July, or August, while a soil *three feet deep* will not be injured during the whole months of June, July, and August; if well drained, defying alike "droughts or excessive rains."

Water is the great element of plants. No matter what the character of the soil, the quality of the manure, or what its cultivation; if it suffers for want of moisture vegetation is checked, and the crop is diminished just in proportion as that is withheld. The deep soils of the West owe their fertility to their depth and the great reservoir of moisture, which the longest drought cannot wholly exhaust, though, perhaps, somewhat lessen. All the analyses of the soil show that it differs not materially from any of our New England earths; and though to its fineness and the "remarkable comminution of its particles" have been attributed the secret of their richness, we apprehend the same soil, only eight or ten inches deep, overlaying a gravelly substratum, would claim little more credit for fertility than our own heavier and more compact loams. No, the fertility lies in their depth, and their capacity for retaining moisture, on which the growth of every good crop must mainly depend. We may plant and enrich,—we may mulch and hoe,—we may prune and thin out,—but if the soil is deficient in moisture all our labor will be in vain. Something we may do by liberal supplies of water and occasional irrigation, but even this is not like the constant, ever present, regular supply, deep in the earth, wherein the delicate roots—not saturated at one time, and parched up at another,—draw up the food that nourishes the fruit, and perfects the growth of every living plant.

Looking at the facts, as we have them presented from so many sources, we cannot evade the great question, "How shall we provide against the slight or excessive droughts so common to our latitude?" It is easily answered. TRENCHING, DEEP AND THOROUGH TRENCHING, or on a more extensive scale, SUBSOILING, are the only means of accomplishing this. Once done, we then have a soil upon which "neither droughts nor excessive rains are much feared."

THE LITERATURE OF GARDENING.

BY WILSON FLAGG.

No. II. Price's Essay on the Picturesque.

The author next proceeds to the definition of the *picturesque*, as distinguished from the *sublime* on the one hand, and the *beautiful* on the other. This is the least valuable part of his work, because he is as unfortunate in his metaphysical distinctions, as he is happy in his practical remarks and his poetical descriptions. Gilpin had defined the picturesque as a term which should be applied to such objects "as pleased, from some quality capable of being illustrated in painting, or that were proper subjects of that art." Our author objects to this definition, and follows Edmund Burke in considering *smoothness and gradual variation* as the distinguishing qualities of *beauty;* and thence, on the supposition that the *picturesque* must be the opposite of the *beautiful*, he concludes that the qualities of *roughness and sudden variation*, joined to that of *irregularity*, are the most efficient causes of the *picturesque*. (p. 61.)

However incorrect Mr. Price's definitions of these terms may be, he is certainly very happy in many of his practical illustrations. He says a temple or palace of Grecian architecture in its entire state, and with its surface and color smooth and even, either in painting or reality, is beautiful; in ruin it is picturesque. Time converts a beautiful object into a picturesque one, by means of weather stains, partial incrustations, mosses and lichens, and at the same time takes off from the uniformity of its surface and of its color, and gives it roughness and a variety of tint. The various accidents of the weather loosen the stones; they tumble in irregular masses upon what was perhaps smooth turf or pavement, now overgrown with wild plants and creepers, while the ivy mantles the other parts and crowns the top. Gothic architecture is considered as more picturesque than Grecian, and upon the same principle that a ruin is more so than a new edifice. Symmetry, which accords with the beautiful,

is adverse to the picturesque. In Gothic buildings, the outline of the summit presents such a variety of forms, of turrets and pinnacles, that even where there is an exact correspondence of parts, it is often disguised by an appearance of confusion and irregularity. In the doors and windows of Gothic churches, the pointed arch has as much variety as any regular figure can well have, and there is an extreme intricacy in the principal windows of cathedrals and ruined abbeys. In these last is displayed the triumph of the picturesque, and its charms to a painter's eye will often rival those of beauty itself.

The author considers water, when ruffled by the wind, when agitated into dashing waves and foaming spray, as picturesque; when calm and smooth he regards it as beautiful. Among trees, the rugged old oak, the knotty wych elm, trees with rough mossy bark, and with sudden variations in their forms; the limbs of huge trees, shattered by winds or lightning, are highly picturesque. A beautiful tree must have a certain correspondence of parts, and a comparative regularity and proportion; whereas inequality and irregularity alone, will give a tree a picturesque appearance.

Among animals that are called picturesque, the same qualities are found to prevail. The ass is eminently so; and among horses, it is the wild forester with his rough coat, his mane and tail ragged and uneven, or the worn out cart horse, not the sleek and pampered steed; and among dogs, the rough water dog, not the smooth spaniel or greyhound; the shaggy goat, rather than the sheep, which are picturesque. Among wild animals, the deer with branching horns, the lion with his shaggy mane are of this character. Among our own species, beggars, gypsies, and all such rough tattered figures, bear a close analogy, in all the qualities that make them picturesque, to old hovels and mills, to the wild forest house and other objects of the same kind.

The picturesque, according to our author, appears to hold a middle station between the beautiful and the sublime, while they are perfectly distinct from each other. The beautiful and picturesque are founded on opposite qualities,

one on smoothness, the other on roughness; one on gradual, the other on sudden variation; one on ideas of youth and freshness, the other on that of age and decay. A quality which in a peculiar manner belongs to the picturesque, and distinguishes it from the beautiful, arises principally from its two great characteristics, intricacy and variety, as produced by roughness and sudden deviation; and as opposed to the comparative monotony of smoothness and flowing lines.

If, for instance, we take any smooth object whose lines are flowing, such as a down of the finest turf, with gently swelling knolls, and hillocks of every soft and undulating form—though the eye may repose on this with pleasure, yet the whole is seen at once, and no further curiosity is excited. But let these swelling knolls be changed into bold broken promontories, with wide overhanging rocks; instead of the smooth turf let there be furze, heath, or fern, with open patches between, and fragments of rocks lying in irregular masses, it is clear, if the two spots are of the same extent, that the whole of the one may be comprehended immediately, and that if you traverse it in every direction, little new can occur; while in the other, every step changes the whole of the composition. Then each of these broken promontories and fragments have as many suddenly varying forms and aspects as they have breaks, even without light and shade; but when the sun shines upon them, each break is the occasion of some brilliant light, opposed to some sudden shadow. All deep coves, hollows and fissures invite the eye to penetrate into their recesses, yet keep its curiosity alive and unsatisfied; whereas in the other, the light and shadow have the same uniform, unbroken character, as the ground itself.

After thus defining the picturesque, the author proceeds to speak of that great connecting and harmonizing principle of nature, breadth of light and shadow. What is called breadth seems to bear nearly the same relation to light and shadow, as smoothness does to material objects; for as all uneven surfaces cause more irritation than those which are smooth,

and those most of all which are broken into little inequalities—so those lights and shadows which are scattered and broken are infinitely more irritating than those which are broad and continued. We have all remarked how broad the lights and shadows are on a fine evening, in nature, or in a picture of Claude. We have also remarked the extreme difference between such lights and shadows, and those meagre and frittered ones which prevail in nature, when the sunbeams, refracted and dispersed in every direction, by a number of white flickering clouds, create a perpetual shifting glare, and keep the eye in a state of constant irritation. All such accidental effects arising from clouds, are highly proper to be studied by all lovers of painting or of nature. With regard to landscape it may be remarked, that in proportion as objects are scattered and in patches, without connection, the lights and shadows will be so too.

If, for instance, we suppose a continued sweep of hills, either entirely wooded or entirely bear, and under the influence of a low, cloudless sun—whatever parts are exposed to that sun, will have one broad light upon them; whatever are hid from it, one broad shade. If we again suppose this wood to have been thinned in such a manner as to have left masses, groups and single trees so disposed, as to present a pleasing and connected whole, though with detached parts; or if we suppose the bare hills to have been planted in the same style—the variety of light and shadow will be greatly increased, and the general breadth still be preserved. Nor would that breadth be injured if an old ruin, a cottage, or any building of a quiet tint, was discovered among the trees. But if the wood were so thinned as to have a poor, scattered and unconnected appearance, or the hills planted in clumps, patches and detached trees—the lights and shadows would have the same broken and disjointed effect as the objects themselves. If to this were added any harsh contrast, such as clumps of firs and white buildings, the irritation would be greatly increased. In all these cases, the eye, instead of reposing on one broad, connected whole, is stopt and harrassed by little disunited, discordant parts. In all

these cases, we are supposing the sun to act upon all these objects with equal splendor: for there are some days when the whole sky is so full of jarring lights, that the shadiest groves and avenues hardly preserve their solemnity; and there are others when the atmosphere, like the last glazing of a picture, softens into mellowness whatever is crude throughout the landscape.

This is peculiarly the effect of twilight: for at that delightful time, even artificial water, however naked, tame and edgy its banks, will often receive a momentary charm; when all that is scattered and cutting, all that disgusts a painter's eye, is blended together in one broad and soothing harmony of light and shadow. In fact twilight does what an improver ought to do; it connects what was before scattered; it fills up staring meagre vacancies; it destroys edginess; and by giving shadow as well as light to water, at once increases both its brilliancy and softness.

The author disapproves of objects painted white or red, as giving them an appearance of standing out, detached, as it were, from the landscape. One of the most charming effects of sunshine is its giving to objects, not merely light, but that mellow golden hue so beautiful in itself, and which when diffused, as in a fine afternoon, over the whole landscape, creates a delightful union and harmony. But if any one object should be produced of so glaring a white as not to partake of that general hue, the whole attention will be drawn to that one point. If there are several, the eye will be distracted among them. Again, when the sun breaks out in gleams, there is something that delights and surprises, in seeing an object, before only visible, lighted up in splendor, and then gradually sinking into shade. But a whitened object is already lighted up; it remains so when everything has retired into obscurity; it still forces itself into notice; still impudently stares you in the face.

With respect to colors, soft, fresh and delicate hues are beautiful; sombre, sere and weather stained tints are picturesque. Among the former are the hues of delicate flowers and of the evening sky; among the latter the autumnal hues

in all their varieties; the various gradations in the tints of broken ground, and on the surface of old trees, and many others. In general, the colors of vegetation in spring are beautiful; in autumn, picturesque. The colors of spring deserve the name of beautiful, having freshness, gaiety and liveliness, with softness and delicacy; but the decaying charms of autumn, being more picturesque, often triumph in the painter's eye, over the fresh and blooming beauties of spring. The very characters of the sky and atmosphere are of a piece with those of the two seasons; spring has light and flitting clouds, with shadows equally flitting and uncertain; refreshing showers, with gay and genial bursts of sunshine, that seem suddenly to call forth and to nourish the young buds and flowers. In autumn all is matured; and the rich hues of the ripened fruits, and of the changing foliage, are rendered still richer by the warm haze, which, on a fine day in that season, spreads the last varnish over every part of the picture.

In conclusion, the author makes an application of the principles which he has endeavored to establish, to the prevalent mode at his time, of laying out grounds. He complains that the principles of painting have been entirely overlooked by the improvers Kent and Brown, and by their followers. With respect to the old and new styles of gardening, he says formerly everything was in squares and parallelograms; now everything is in segments of circles and ellipses; the formality still remains; the character of that formality alone is changed. The old canal has lost indeed its straitness and its angles; but it has become regularly serpentine, and the edges remain as naked and uniform as before. Avenues, vistas and straight ridings, through woods, are exchanged for clumps, belts, and circular roads and plantations of every kind; straight alleys in gardens and the platform of the old terrace, for the curves of the gravel walk. The intention of the new improvers was certainly meritorious; for they meant to banish formality and restore nature; but it must be remembered that strongly marked, distinct and regular curves, unbroken and undisguised, are hardly less unnatu-

ral or formal, though much less grand and simple than straight lines; and that independently of monotony, the continual and indiscriminate use of such curves has an appearance of affectation and studied grace, that always creates disgust.

Kent is entitled to the same praise as other reformers, who have broken through narrow and long established prejudices, and thereby prepared the way for more liberal notions. Yet it must be owned that like other reformers, he and his followers demolished, without distinction, the costly and magnificent decorations of past times, and among them many things that still deserved to be respected and adopted. Though a painter by profession, he seems to have entirely overlooked all those principles by which the great masters have been governed. No professor of high reputation seems for some time to have appeared after Kent, till, at length, that his bald and monotonous system might be carried to its *ne plus ultra*, arose the famous Mr. Brown. It is very unfortunate that this great legislator of our national taste, whose laws still remain in force, should not have received from nature or have acquired by education, more enlarged ideas. Mr. Brown was bred a gardener, and having nothing of the mind or the eye of a painter, he formed his style, or rather his plan, upon the model of a parterre; and transferred its minute beauties, its little clumps, knots and patches of flowers, the oval belt that surrounds it, and all its twists and circum-crancums, to the great scale of nature.

We have indeed made but a poor progress by changing the formal, but simple and majestic avenue, for the then circular verge called a belt; and the unpretending ugliness of the straight, for the affected sameness of the serpentine canal. The great distinguishing feature of modern improvement is the *clump;* whose name, if the first letter was taken away, would most accurately describe its form and effect. Natural groupes, being formed by trees of different ages and sizes, and at different distances from each other, often too of a mixture of timber trees with thorns, hollies and others of inferior growth, are full of variety in their outlines; and from

the same causes, no two groups are exactly alike. But clumps, consisting of trees of about the same age and growth, planted nearly at the same distance in a circular form, each tree being equally pressed by its neighbor, are as like each other as so many puddings turned out of the same mould.

The next leading feature to the clump in this circular system, rivalling it in the power of creating deformity, is the *belt*. Its sphere, however, is more contracted. Clumps, like beacons on the summits of hills, alarm the picturesque traveller many miles off, and warn him of his approach to the enemy: the belt lies more in ambuscade, and the wretch who falls into it, and is obliged to walk the whole round in company with the improver, will allow that a snake, with its tail in its mouth, is comparatively but a faint emblem of eternity. It has all the sameness and formality of the avenue to which it has succeeded, without any of its simple grandeur. The avenue has a most striking effect, for the reason that it is straight: no other figure can give that image of a grand Gothic aisle, with its natural columns and vaulted roof, whose general mass fills the eye, while the particular parts insensibly steal from it in a long gradation of perspective. The broad solemn shade adds a twilight calm to the whole, and makes it, above all other places, most suited to meditation. To that also its straightness contributes; for when the mind is disposed to turn inwardly on itself, any serpentine line would distract the attention.

Our author equally condemns the general grouping and arrangement of trees according to the new style of improvements. One great cause of the superior variety and richness of unimproved parks and forests, when compared with lawns and dressed ground, is, that the trees and groups are seldom totally alone and unconnected: *of this and of all that is most attractive in natural scenery, the two great sources are accident and neglect.* In *forests* and *old parks*, the rough bushes nurse up the young trees, and grow up with them; and thence arises that infinite variety of openings, of inlets, of glades and forms of trees. The effect of all these might be preserved and rendered more beautiful, by a judicious

style and degree of clearing and polishing, and might be successfully imitated in other parts.

After condemning unequivocally the style of Mr. Brown's artificial water, as tame, insipid and monotonous, he concludes by regretting the mischief that has been done by him and his improvers, by the destruction of many a scene that would have charmed a poet or a painter. He, therefore, will show the most art in improving, who *leaves* (a very material point) or who *creates* the greatest variety of *pictures*,—of such different compositions as painters will least wish to alter;—not he who begins his work by general clearing and smoothing, that is, by destroying all those accidents, of which such advantages might be made; but which, afterwards, the most enlightened and experienced art can never hope to restore.

PRECAUTIONS IN REARING SEEDLING PEARS.

BY M. J. DE JONGHE, BRUSSELS.

In our last volume we gave our readers two or three articles on the cultivation of the pear, by M. de Jonghe of Brussels, an eminent Belgian cultivator, and one who appears to have given considerable attention to the subject. They were read, we believe, with a great deal of interest, and afforded much information to all who are engaged in the culture or improvement of this fine fruit. A continuation of M. de Jonghe's communications appears in the *Gardener's Chronicle*, and as they appear equally interesting with those we have already given, we make no apology for introducing them to our readers, assured that they will be perused with great pleasure, especially by all who are engaged in the rearing of seedling trees.—Ed.

To prevent confusion in a nursery of seedling fruits, and indeed in collections in general, it is advisable to direct the greatest attention to their cultivation with the view of bringing them into a bearing state before propagating them, or

giving away grafts. If, when the period of bearing is at hand, the following characteristics of the tree are observed, viz., a straight, upright, substantial stem, not too tall, branches and shoots somewhat erect, forming, however, tolerably wide angles, a portion of them being furnished with spines and blunt spurs, some of which also appear on the stem and upper parts of the tree, there is a probability of the seedling proving good. If the fruit set well in spring, notwithstanding the frosts and vicissitudes of weather which occur at that season, and if from three to eight flowers of which the truss may be composed, shall set as many fruits, there is a probability of its being both hardy and productive. The stalk should have a firm attachment to the spur, so that the fruit may not be readily blown off by the wind. The fruits should be of fine form and good size. Those formed on the stem will always be larger than those on small branches or slender elongated spurs, and will likewise prove of better quality. The fruits from the successive and final gatherings should be carefully marked, in order to ascertain the difference when they come to be tasted, and to discover their mean time of ripening. A single production of fruit, and only one tasting, are not sufficient for the proper determination of the quality of a variety and its mean period of ripening. Several successive crops in different kinds of soil are necessary in order to appreciate the fertility, quality, and the period of ripening of a new variety.

When in the first year of bearing, vigor, hardiness, and a certain degree of productiveness are observed in a seedling, and when the fruit fulfils the requisite conditions as regards size and flavor, (these will be spoken of further on,) it is advisable to graft the variety on the pear stock for dwarfs and standards, and on the quince for quenouilles.

In order to preserve in the seedling all the qualities above enumerated, it is necessary to take vigorous cuttings (as we have proved in former communications) from the upper part of the seedling tree, and from the shoots nearest the places where fruits were borne.

A graft worked on a strong pear stock at the height of six

or seven feet, and properly treated, will be in a favorable condition for exhibiting in the third, or at all events in the fourth year after grafting, the character of the seedling variety. Nevertheless, the properties, and more especially the form of the fruit, cannot be ascertained with all that degree of certainty which is desirable until the grafted tree, well established and vigorous, in good soil, shall be subjected to a proper system of pruning.

A tall-stemmed pear stock, before being grafted, will have nearly arrived at the age at which it would bear fruit, of some sort, at the part where it is to be worked with a graft taken from that part of the seedling where fruits were first produced. This being the case, it is easy to perceive that the graft will produce wood on which fruit-bearing spurs will be formed in a few years, and that fruit will be produced of perfect form, and as excellent in point of flavor as those of the seedling tree.

A bud inserted near the ground in a quince stock—if it take, for some varieties do not succeed on that stock—will likewise fruit in the third or fourth year after being worked. On the quince, the wood of a variety of pear may acquire a different tinge, but the form of the fruit is generally the same. Occasionally, however, the fruit of some varieties worked on the quince becomes larger, is produced in greater abundance, and acquires a richer flavor than that grown on the seedling tree. But these are exceptions to the general rule, and may perhaps be partly attributed to the sort of quince, for of this there are several varieties, the influence of which on the graft is as varied and decided as that of different varieties of the wild pear employed for stock. In general but little attention is paid to this circumstance, which, however, is the cause of many of the failures which occur in cultivation, and to an extent which, we think, requires to be noticed in a special article.

The bud, or graft, placed on the lower part of a wilding intended to form a dwarf pyramid, although taken from the upper part of the seedling, must undergo the influence of the young stock on which it is worked, and must produce wood

for five or six years before its organs of fructification can be formed. During this interval there is time to ascertain whether the tree is inclined to become a fine dwarf pyramid rather than a tall one. At the end of three or four years we may certainly find out from the more or less vigorous growth of the variety whether it should be classed amongst the sorts which should be trained against a wall, rather than as a pyramid, or whether from its strong growth and hardiness it is adapted for a standard, and for being cultivated on a large scale for orchards.

From what has been stated, it appears that from the time when the tree first comes into bearing till that at which a description of the tree and its fruit can be correctly and definitely made, a period of ten years must elapse; and before a sufficient number of healthy and vigorous trees can be sent out, another interval of five years must be allowed, making altogether fifteen years from the time of coming into bearing. Until then, only the raiser and a few privileged friends should taste the fruits. Before a variety sent out to the public can be generally distributed, tried in different localities and in various seasons, and its merits generally ascertained, a period of twenty years will have elapsed from the time of its first fruiting. It was so with the Passe Colmar, Beurré d'Hardenpont (Glout Morceau), Beurré Rance, Urbaniste, Beurré Diel, Beurré Bosc, Marie Louise, Conseilleur de la Cour, Josephine de Malines, Soldat Laboureur, Ne plus Meuris, and several others of a more or less recent origin. Such will also be the case with several more modern varieties of which the qualities have been ascertained by competent judges, from several years' production. It is much better, we think, to rely upon the results of careful examinations than to adopt hasty conclusions, not founded on established facts.

We have, from time to time, cautioned our amateur cultivators against heading down and regrafting their trees, until reasonable time had elapsed to test each variety. The evidence of M. Jonghe will show how important it is to continue this caution.—Ed.

HEDGES AND THEIR MANAGEMENT.

BY WM. REID, NURSERYMAN, ELIZABETHTOWN, N. J.

A WELL-CULTIVATED hedge is one of the greatest ornaments to a country residence. It gives a polish and neatness which adds to the appearance of well-kept grounds more than all the fancy ornamental fences of wood that can be put up, although ever so expensive. Yet we see but a very limited number of good ones, although there is nothing easier to have, if a little care is taken with them for two or three years, when first planted. But we often find hedges planted, and nothing more done to them. Without cutting them and getting them into a proper shape, at first, it is useless to think of having good hedges. A model of a good hedge ought to be cut in the form of a wedge, or a sharp Gothic arch, with the lower branches resting on the ground, straight, and of a uniform height, with the branches all close and compact, four to five feet high. When this is attained there will be no trouble in keeping it so, for any length of time, by cutting it once or twice in the course of the season. But where hedges are planted extensively for farm fences, one cutting in the season would answer, after getting them into proper shape, which could be done in the winter months.

This form of cutting will be found to be much better than square or flat tops, which are liable to be broken down by heavy snows lodging on them. They are also more liable to become naked at the bottom.

The next thing to be taken into consideration is the best and most suitable plants for that purpose. We have a great variety of plants that would make hedges. But I will notice first, those that are likely to be most valuable, viz:—Osage Orange, Honey Locust, (or Gleditschia triacanthos,) and Buckthorn.

OSAGE ORANGE.—This is now being extensively planted in the Western States, and I can see nothing to prevent it from making a good fence, where the winters are not too severe. It will stand a temperature of 10° below zero, and perhaps

considerably below this. It requires, to be sure, a good deal of cutting, the first year or two, to get it into proper shape, but it makes a beautiful hedge, very compact and close; but without proper cutting it is useless to plant it for the purpose of a fence.

Honey Locust.—This is one of the most valuable plants that I have tried, for making a strong, durable, and lasting hedge. Nothing will attempt to break through it when once it gets up four or five feet high. This also requires cutting twice in the season, until it grows large enough; one cutting afterwards will answer for farm hedges; but, where neatness is an object, cutting twice will add greatly to its appearance. I have seen a very durable fence of this, made by planting six inches apart, and allowing them to grow without cutting, for five or six years, until the plants become trees eight or ten feet high, and then cutting them down to five feet, which gives a line fence at once, and by cutting in the side branches will last a life time. This plan would not be advisable for hedges in general, but with this plant it is an exception to the general rule. This method I would only recommend, however, for farm hedges, where the saving of labor will be considerable.

Buckthorn.—This makes a very compact hedge and very hardy, and for an ornamental fence answers the purpose perfectly well. It is too deficient in spines, however, which the two former are so well armed with, to make it impregnable to cattle.

Other Hedge Plants.—The Hawthorn, so generally cultivated in Europe for hedges, is not well adapted for that purpose here. It is liable to lose its foliage early in the season. It is also subject to be bored by the worm at the roots, which is sure to destroy it, otherwise it would make a very good hedge, and looks remarkably well in the early part of the season. Privet is also planted extensively for ornamental hedges. This plant has a very fine appearance, particularly early in the spring, and through the fall months, holding its foliage very late. It has a very cheerful, pleasant look about it when all other deciduous hedges have become naked.

Pyrus japonica is another plant sometimes used for this purpose; it makes a very neat and very durable hedge, and looks like a hedge of flowers, when in bloom in the beginning of summer. The cutting of this, as is the case with most plants, does not prevent it from flowering. English Beech and Hornbeam are also used, and make strong fences, and useful for shelter, retaining their foliage nearly all the season. Yellow Willow is sometimes used for light inside hedges, also the Red-twigged Dogwood. Both of these look well when the foliage has dropped.

Evergreen hedges, although not suitable for protection against cattle, are valuable for shelter as well as ornament. American Arborvitæ is one of the best plants for this purpose; nothing can be more beautiful than one of these hedges, neatly kept, being very easily managed, and requiring only a slight cutting once or twice through the course of the summer to keep it in perfect order. White Cedar, and also the Red, make very neat hedges, and grow rapidly. They are not, however, so lasting as the Arborvitæ, and are liable, when they get old, to die out at the bottom. The Hemlock Spruce is also used for this purpose; it takes a year or two longer to get this up, but we have nothing more beautiful if a proper shape has been preserved; being of a drooping habit it requires a little care and skilful cutting to get it up, but its beautiful appearance will well repay the little extra attention bestowed on it. Norway Spruce is very valuable for a screen or coarse hedge for shelter, but does not stand cutting well. When this is grown ten or twelve feet high it has a very imposing appearance, and makes a capital protection from winds in bleak, exposed situations, growing very rapidly, and easy to transplant.

Yew hedges, so much admired in Europe, can be grown here equally as fine, where the winters are not too severe. This plant will stand the thermometer 10° below zero, without much damage, but lower than this the American Yew ought to be substituted. Plants have formerly been high priced, but those of small size, from twelve to eighteen inches, can now be had at more moderate rates. The

Yew stands cutting well. Holly hedges, like the Yew, are only beginning to be taken notice of, but I think, before a great while, we will be able to get something very respectable in this way. The plants have also been very scarce, which has prevented experiments being made; but as soon as our nurserymen can raise up a stock of good plants I see nothing to prevent us from having beautiful hedges. The native Holly, on account of its hardiness, will be generally planted, and, although not of as deep a green as the English, will, nevertheless, make a fine hedge. The English will stand the winter better when grown in a hedge, but where the cold reaches below zero it will not answer. Having noticed nearly all of the plants that are in general use for hedges, I will conclude by offering a few brief remarks on planting, cutting, &c.

PLANTING AND MANAGEMENT.—The preparing of the ground to receive the plants is the first operation. This can be done either by the plough or spade. For farm hedges, where there is plenty of ground, the plough will answer very well to break it up. A strip six feet wide, well ploughed and subsoiled where the bottom is hard, and working manure in the soil at the same time where it is poor; but if to be kept clean by the hoe four feet will answer. After the ground is well broken up and levelled, stretch in the middle of the ground a line lengthwise, and tread down the soil on the top of the line to make it firm, smoothing lightly with the spade to take out the marks made by the feet, and then clap it smooth with the back of the spade over the line: mark the ground then with the spade an inch deep, keeping it straight by the line, and breaking down as little of the back as possible. Then dig a good spit deep, turning the earth out on the side marked, keeping the back without breaking down, which greatly facilitates the planting; it will also be much easier to hoe and keep clean if the plants are kept straight in the row when planting. Also, a very essential thing to be done before planting, is to size out the plants, selecting them as near as possible of a uniform size. This may be thought to be unnecessary trouble, but unless this is done the strong plants

will smother the weak, and make the hedge irregular. Then, after cutting off the tops of the plants so that three inches remains above the ground, the earth is filled in and the work is finished. Some cut the tops off after planting. The first mode will be found the quickest.

The usual way of planting, is, for one man to take the plants in one hand, and lay them with the other, six to eight inches distant in the row, planting backwards, with another man filling enough earth on the roots, the moment the planter lays one in, to keep it in its place. Planting can be done very quick in this way, if the person filling in the earth watches the setter. After this is done then fill up the trench nearly full, giving each plant a tread with the foot after; then fill up the trench, and tread again. Smoothing off a little with the spade finishes the operation of planting, nothing more being required the first season except to keep the ground clean, which can be done by hoeing, or where there is room it may be done by the cultivator. It is not, however, the best way to wait until weeds grow, but use the cultivator or hoe as soon as they begin to make their appearance.

The second year, if the plants have been kept clean the previous season, will have grown strong and made vigorous shoots, will require to be cut down again within six or eight inches of the ground, and, about the end of June, if they have grown strong, may be left about eighteen inches at this cutting. Encourage all the side branches at the bottom, keeping it narrow at the top, wedge form, increasing the breadth at the bottom, gradually, as the hedge increases in height, and another cutting about the end of August. Cutting within six inches of the June cutting will complete the second year, making it about two feet high.

The third year the same treatment will be required, cutting about the end of June, and last of August, which, if vigorous, will now be about three feet in height. If this treatment is carried out until the height required is obtained, which ought to be about five feet, with the base resting on the ground, thirty inches to three feet wide, the hedge will then be all that can be desired; and if cut back close to the old wood,

every year afterwards, may be kept at this size for a number of years.

For cutting, light hedge knives and garden shears are generally used. Those accustomed to the use of hedge knives will cut more than with shears; and for farm hedges, where extensively used, the knife is undoubtedly the best; the shears, however, when neatness is an object, is preferable. I have generally used a line in cutting the top straight, which gives the true centre of the hedge, and, I think, expedites the work; although not in general use, yet I think it saves time as well as neatness, particularly with those that are not practised hands.

Evergreen hedges require the same preparation of the ground and treatment as for deciduous, except cutting back the young plants, which ought never to be done, as they seldom break well again, if cut down. When planting they ought always to be set deep enough, so that the branches are resting on the ground, and, when the plants are not all of a height, use a line, and take off the points level, which will give it a neat appearance.

We need scarcely call the attention of our readers to anything Mr. Reid communicates, for he is so well known as one of our most extensive and energetic nurserymen, thoroughly skilled in his profession, that what he says may be relied upon. He has, growing on his place, specimens of all the different hedge plants he enumerates, and all who wish to see how well they are adapted to such a purpose can satisfy themselves by visiting his grounds. His directions in regard to planting are detailed, and leave nothing to add; so that the most inexperienced can scarcely fail of success. Advice from such a source will be duly prized by all who know with what practical knowledge Mr. Reid speaks.

We have been fearful that the Osage Orange would not succeed in our New England climate as a hedge plant. J. P. Cushing, Esq., of Watertown, tried it some years ago, and the severe winters continually opened gaps in it until it became too unsightly to retain. Perhaps, however, the loca-

tion may have been a poor one; at any rate, we should like to see it tried again, for it makes a splendid hedge where it will succeed.—Ed.

POMOLOGICAL GOSSIP.

Ohio Pomological Society.—This flourishing association held its sixth session at the rooms of the Ohio Agricultural College, in Cleveland, on the 8th of January, and continued in session three days. The meeting was well attended, and the proceedings were very interesting. Mr. Ernst, the President, delivered an excellent address, recapitulating the subject matter of discussion, and concluded by thanking the society for the honor conferred on him, and expressed a wish to retire from so prominent a position. The meeting then proceeded to the discussion of various fruits, more particularly the pear and apple. Among the latter some new sorts were introduced, a brief description of which will be interesting to cultivators:—

Melt in the Mouth.—Said to have been brought from Chester county, Pennsylvania; a pleasant fall apple, very melting, and juicy; a good bearer and upright grower; slim twig; small leaf; something like Jonathan in growth, of medium size, color red, some white spots; high flavor like the Spitzenberg; one of the best before the Convention. Keeps till March.

Rome Beauty.—A large, fine, showy apple; good bearer; trees of slender growth; derived its name from Rome, Lawrence county, its place of origin; healthy tree, handsome and of upright growth; recommended by some for general cultivation.

Polly Bright.—Said to have come from Western Virginia; described as above medium size; roundish flattened; color greenish yellow with bronze blush; somewhat russety about the calyx and stem; flesh white, sprightly, agreeable subacid flavor, and on the whole a good apple. Growth slender, middling upright.

GRIMES'S GOLDEN PIPPIN.—Presented at the Ohio State Fair as a seedling, and considered promising. Described as of medium size, oblong, flattened; color handsome pale yellow; flesh yellowish white, mild subacid flavor, good, though not quite first rate, less sprightly than the Newtown pippin. Not so good a keeper as the latter fruit, but a better growing tree, with medium sized foliage.

SWEET VANDEVERE.—Grown in Belmont county, on almost all kinds of soil. A good bearer, but a poor grower; crooked; round leaf; of medium size, slightly flattened; yellowish color, overspread with dull red, bronze russet around the stem; calyx open; flesh yellowish or yellowish white; a little dry; sweet; core medium size; seeds large.

Other new kinds were brought forward, but no decision was made respecting the merits of some, and others were pronounced unworthy of cultivation.

THE CANADIAN CHIEF GRAPE.—This is the name of a new grape introduced to notice last year, in Canada, and said to possess all the good qualities of a popular variety. A letter to us from a cultivator who has raised it, thus describes this variety:—"The vines passed through last winter (1854 and '55) without any covering, grown from cuttings carelessly stuck in the ground along a rail fence. It grows freely in the open air and ripens in the latter part of August; one of the very earliest as you will find, and, as far as size of bunch and berry, ranks with the largest, and of the most exquisite flavor; a most superb table grape. Its origin is unknown, but I will give you all particulars respecting it by the time you may fruit and test the variety." We hope it will prove all that our correspondent predicts.

FRUIT GROWERS' SOCIETY OF WESTERN NEW YORK.—The annual meeting of this association was held in Rochester on the 8th and 9th of January, and notwithstanding the severe cold weather of that week was well attended, and unusually successful. Very good collections of fruit were presented from upwards of twenty-five nurserymen and cultivators, and among them some fine specimens. Mr. A. Pinney, of Clarkson, exhibited Catawba grapes in a state of perfect preserva-

tion, with all the bloom and freshness of October; they were kept by simply hanging up on the vine in a cool cellar. Mr. Chas. Lee of Penn Yan had a bushel of fine Wagener apples; J. H. Watts of Rochester, beautiful Northern Spy apples; and J. M. Mattison, Tompkins co., splendid King apples.

We learn that the discussions at the meeting were confined to the subject of planting fruit trees on an extensive scale for market, and that a variety of facts were presented showing it to be more profitable than any other crop now cultivated in Western New York. As the Society intends to publish its transactions, we shall refer to them when we have examined their contents.

THE PROFITS OF FRUIT CULTURE.—Every month or two the newspapers chronicle some remarkable statement, showing the immense profits of fruit culture, and no doubt they are taken as the truth by many who read them. We have never doubted that good profits may be realized from the growth of fruit, and have ourselves given some instances of unusual success; but at the same time we have never held out any inducement that they were to be ten times as great as any other crop. And those credulous individuals who believe all they read, and rush into the cultivation of fruit with the expectation of realizing a fortune at once, will find themselves sadly disappointed in the results. We state this because we think such stories injurious to the future progress of fruit culture. Disappointment in any business often leads to its abandonment altogether, but when no unreasonable expectations have been formed, there is no danger of this, and the individual zealously pursues his calling till crowned with success, which is nearly always sure to come in the end. As illustrating the common mode of making up these exaggerated statements, we copy the following from the *New York Times*:—

"The Ellsworth (Maine) *American* tells us that Mr. C. A. Nealey, of Eddington, Penobscot co., recently took into the village, one morning, forty bushels of pears, and retailed them out in less than an hour, for two dollars per bushel, or eighty

dollars. Twenty bushels of these pears grew upon one tree, making the product worth forty dollars. Now, we will allow that tree a plot of ground just twenty feet square, or four hundred square feet, which is all that a pear tree of anything like modest pretensions would require. An acre, then, would contain one hundred and eight and nine-tenths such plots, and, *of course*, just that number of pear trees. The product of these, at forty dollars per tree, is *at the rate of* $4,356 per acre.

"If anybody is disposed to criticise this method of estimating, we shall fall back upon the example of the 'distinguished agriculturist,' who raised such unheard-of crops of cabbages and potatoes, by the aid of some science and 'some' fertilizer. He produced one great cabbage that weighed ever so many pounds—six, we believe; it may have been ten or fifteen. Now, that cabbage occupied a plot of ground just two feet square, and, since there are 10,890 such plots on an acre, of course his whole crop (one cabbage) was *at the rate of* 10,890 great cabbages per acre. These, at ten cents each, amount to $1,089 for an acre. Is not this perfectly plain reasoning?

"But the pear man is ahead. Let us try the potato patch. One hill was dug which measured just six quarts of splendid potatoes. With the hills three feet apart each way, we have 4,840 hills, or 876¼ bushels to the acre, which, at $1.25 per bushel, *is at the rate of* $1,095.31¼ per acre. And as there were eight acres in the field, the crop was, of course, 7,010 bushels, or $8,762.50!—all produced by a few hundred pounds of a special fertilizer. But from eight acres the pear man would have realized $34,848. So he is still clearly ahead."

This reminds us of a statement made by a cultivator of the strawberry, at the Pomological Meetings of the New York State Fair at Elmira last October, which was, that he had produced at the rate of 300 bushels of Burr's New Pine to the acre. Upon inquiry how much land was planted to confirm such a result, we ascertained that it was a bed some twelve feet long and three feet wide, which, producing a cer-

tain number of quarts, the calculation was made that an acre would produce 300 bushels.

Many individuals complain of the high price of pears, $1 per dozen being thought an exorbitant rate. But when we reflect that these pears are only obtained for the very finest specimens, and that to raise them a greater part of the crop must be picked from the tree, except a few dozen, the surprise ceases; for inferior specimens of the same sorts are almost unsaleable at any price. The cultivation of fruit is a profitable business, and will pay better than many other crops. All who engage in it may be sure of a ready sale at a fair price; but those who indulge in the fancy that they are to realize anything like the fortunes so repeatedly affirmed by the newspapers will be disappointed.

The above was intended for our last number, but was crowded out for want of space. Since it was written we have seen some statements in reference to the profits of fruit culture, made at the meeting of the Convention of Western New York Fruit Growers, at Rochester, which beat the stories in the New York Times "all hollow." We copy only one of them, as follows:—

"H. E. Hooker, of Brighton, remarked—In order to turn the attention of the members present in a different channel, I will read a few figures in regard to pears, as I suppose it to be in order now to take up the second question, whether it is advisable to plant pears on quince stocks. Now I suppose there are none of us have had sufficient experience on this point to be able to judge; still I think we may arrive at something like a conclusion when we throw all the little experience we have had together and compare results and consider causes. I am in favor of plenty of room and light among trees. By planting 680 pear trees on an acre, the hardy sorts will produce in the neighborhood of a bushel, more or less. These $680 bushels, at the price fine pears command in the autumn, $4 a bushel, gives us $2,720 from one acre of ground. This may seem an unreasonable product; but take one half that number of trees, and at two dollars a bushel we then have the extraordinary sum of

$680. Now pears on quince stocks of such varieties as Duchess of Angouleme and Bartlett, would give us more than that product, I am confident. In reference to the prices here mentioned, as not likely to be realized for winter pears, 340 bushels at 150 pears to the bushel—which is few enough, and they have to be large ones with which 150 will fill a bushel—makes 51,000 pears to the acre. These sold at ten cents each—and in New York they sell for a shilling and eighteen pence (12½ and 18 cents)—gives us $5,100 for a single acre!"

Such a statement we might have expected from some quarters, but that our shrewd Rochester cultivators should deal in such extravagancies is really surprising. It has just as much of real truth in it as the above statement respecting the crop of cabbages which amounted to $1,089 the acre. Indeed it exceeds the most wild "Morus multicaulis" statements which filled the papers a few years ago.

If Mr. Hooker had rested his statement upon the calculation that 340 trees on an acre would give a product of $2 to each tree, amounting to $680, it would have been sufficiently inviting to induce hundreds to embark in the cultivation of fruit, as more profitable than any other crop. This result we believe can be achieved after the *sixth* or *eighth* year by skilful management under high cultivation, but from this must be deducted the interest of land and trees; the cost of digging, manuring and pruning; of gathering and marketing, which might leave a net profit of $400 to the acre. More than this we believe will not be realized, and in a majority of cases not more than half that sum. Will not every careful and prudent cultivator be satisfied with such a result; and can he raise a more profitable crop?

The Bergamotte d'Esperin Pear.—In our last number we appended a note to the excellent communication from Mr. Reid of New Jersey, in which this pear was described, stating that "it was the true Bezi d'Esperin, and not the Bergamotte, which is a different fruit." Our reason for so doing was that he described it as "sometimes a little oblong," which character we never saw among our speci-

mens. We noticed the error when too late to correct it. Since then we have received a note from our friend Mr. L. Berckmans, of New Jersey, in which he states, among other interesting matters, that we have fallen into an involuntary error; that the Berg. d'Esperin of Mr. Reid is the true one. The Bezi is pyriform, and in Mr. Wilder's garden last year was a most splendid fruit. He knows both *too well* to think he could be deceived in any climate or under any circumstances. We have now a quantity of the Bergamotte in eating, and have no hesitation in saying Mr. Reid has described the true variety.

THE COLMAR D'AREMBERG PEAR.—In our last volume (XXI, p. 515,) we figured and described this pear, and need only refer to it to confirm our opinion of its merits. It appears, however, that in Western New York it has not been grown in its full perfection, as the following note from our correspondent, Mr. J. B. Eaton of Buffalo, will show:—

"Your description of the Colmar d'Aremberg, Mr. Editor, both in the Fruits of America and the Magazine for November, is so widely different from the pear, as grown in this vicinity, both according to my own experience and that of many cultivators with whom I have conversed, that I should like to ascertain whether your specimens were not grown under some advantages of position, soil or culture, which are not common, and which may have had some effect in rendering this pear, usually considered coarse and worthless, 'fine, melting, buttery and juicy,' 'rich, sugary, vinous, perfumed and excellent.'"

The specimen from which our drawing was taken did grow under "some advantages of position," &c. It was presented to us by N. Stetson, Esq., of Bridgewater, an enthusiastic amateur, who raises the finest fruit. The pear was from a tree trained to a trellis, and was a superb specimen. Our opinion of its quality, however, was not formed from it grown in that manner, but from fruit raised on pyramidal trees in our own collection, considerably less in size, but superior in quality.

We have nothing to add to our opinion recorded in our

last volume; as we then stated, we have eaten it when we thought it very "indifferent in flavor;" and again when it was "exceedingly fine." Like the Passe Colmar, which it resembles in quality, it is very variable, and like that pear, which has been at times considered unworthy of cultivation, and at others as one of the finest of all pears, it will be variously estimated according as the specimens are produced in greater or less perfection.

THE WHITE DOYENNE' PEAR.—Mr. Eaton thus writes in regard to this old pear:—"You say that your White Doyenné on the quince do not crack, while on adjacent standard trees the fruit is worthless. I have seen the fruit on dwarf trees utterly inedible, while other trees in the same row and within a few feet—also dwarfs—bore fine fruit. I have also seen trees bearing on some branches good specimens, and on others worthless ones. This disease has been much more general and fatal the past season than I ever before knew it; many trees which have before borne perfect fruit, bearing this season few specimens which were not affected."

We have nothing new to offer in regard to the cracking of this old pear. We only record facts. Fifteen pyramidal trees on the quince, planted in 1850, and standing in one row in our grounds, six feet apart, bore two and a half barrels of as beautiful fruit in 1855 as one would desire to look at; while two trees on the pear, planted in 1845, did not perfect half a dozen good specimens. At Rochester, in the nursery of Messrs. Ellwanger & Barry, we saw last October a small square of trees, of the White Doyenné, on the quince, which produced nearly fifty bushels of superb fruit.

What conditions of culture are necessary to raise this old pear in its ancient beauty we are unable to say. In the city of Boston there are numerous standard trees, fifty to one hundred years old, which have never yet to our knowledge produced a cracked specimen. These trees are all upon the pear, and are by no means remarkably vigorous; yet they invariably produce the finest fruit.

OUR ORNAMENTAL TREES.

BY THE EDITOR.

2. The Sweet Gum. (Liquidamber styraciflua.)

"No tree," says Michaux, "has hitherto been found in North America so extensively diffused as the Sweet Gum. On the seashore it is seen towards the northeast between Portsmouth and Boston, and is found as far as Mexico towards the southwest; from the coast of Virginia it extends westward to the Illinois River, thus spreading over more than two-thirds of the ancient territory of the United States," &c.

6. THE SWEET GUM TREE.

We should naturally suppose that a tree so universally distributed, and found by Michaux, who was a most accurate observer, fifty years ago, as far north as Portsmouth, N. H., would be still more or less abundant in the same locality, or at least not a very scarce tree. Yet Mr. Emerson, in his account of the Trees and Shrubs of Massachusetts, states that he had

"hitherto searched New England in vain" for specimens of this tree, though he does not doubt they may be found here. It may be that these trees have disappeared before the advancing step of civilization, and that they have shared the fate of other fine trees, which, sparingly distributed in isolated groups, have all fallen by the axe of the pioneer settler. Certainly we never had the good fortune to meet with a tree in our New England forests, and know of no individual who has seen an uncultivated specimen. No doubt they may be found in western Connecticut, where we think we saw some fine trees during a railroad trip through that State; but as such rapid travelling does not allow one to be very certain in what he sees, we have no positive assurance of this. The most northern locality in which we have particularly observed the Liquidamber is Jones's Park in New York city. Walking out to Yorkville, on the 3d avenue, on which this fine place is situated, we noticed several trees forty to fifty feet high, finely proportioned, rather spiral in form, though well branched nearly to the ground, being upon the outskirts of the wood where they had plenty of room to grow: their singular and peculiarly attractive foliage, then assuming their richest autumn tint of glowing red, rendered it conspicuous among the deep green of the oaks, and various-hued but more sombre colors of other trees.

The Sweet Gum forms a large tree, having somewhat the appearance of a maple, from thirty to fifty feet high, according to the soil and latitude in which it grows; the trunk is straight, nearly uniform in thickness, to the height of twenty feet or more, where its branches begin to diverge. The bark of the trees while young is nearly smooth; but as they acquire size and age it becomes thick and deeply furrowed; the secondary branches being covered with a dry flaky bark, the plates of which are attached at the edge and not on the face, as in other trees. The leaves are smooth and of a yellowish green, varying in size from three inches to six inches in diameter, and they are palmate, that is, they are divided into five deeply cut lobes, resembling in shape a star. The male and female flowers appear upon the same

tree, the former being rather inconspicuous, while the latter are oval catkins one and a half inches long. These appear in March or April, and are succeeded by a globular fruit bristling with points, suspended by a slender pedicel one to two inches long, and containing one or two small, blackish, perfect seeds. The leaves change to a deep red, or almost an orange scarlet, immediately after the first frosts, and keep their brilliant color for some time.

As the tree is so extensively distributed, so it is found in all varieties of soil, from the dry and gravelly heights of the north, to the deep river bottoms of the south and west. On the unpropitious soils it usually does not grow more than twenty or thirty feet high, but in favorable localities it attains its amplest dimensions. Michaux measured a tree which he found growing in a swamp in Augusta, Ga., that was fifteen feet in circumference, with a summit in proportion to the size of the trunk. The tree takes its name from a gummy or viscous substance, which exudes from the leaves, and the latter, when burned, emitting an aromatic and most agreeable odor.

The Sweet Gum was first discovered by Francis Hernandez, a Spanish naturalist, sent to Mexico about 1650. Shortly after, Bannister, a nursery collector sent out by Bishop Compton, discovered the tree in North America, and sent home, in 1681, a plant of it to the bishop, when it was planted in the palace gardens at Fulham. The largest tree in England, according to Loudon, in 1838, was at Woburn farm, 60 feet high. The average height of trees, ten years planted in Great Britain, is fifteen feet.

The Sweet Gum prefers a deep, rather moist soil, and will not attain its largest dimensions unless in a somewhat sheltered situation. It is not a tree to plant in poor soils and exposed places, but should be grouped with other trees which serve to protect and encourage its growth. It is raised from seeds in a similar way to those of the pines; that is, the seeds should be sown in boxes soon after gathering, and protected in frames during winter, or they may be planted in beds in the open ground; they do not always come up the

first year; but the second the whole will make their appearance. The second season the young trees may be planted out in nursery rows and receive the same culture as other trees. They may also be raised from layers which root with tolerable facility, being ready to cut from the old plant in the autumn of the second year after layering. These soon make handsome trees.

As an ornamental tree the Sweet Gum has the highest claims upon the attention of the landscape gardener and rural planter. The fine proportions of its somewhat pyramidal head—the dark green of its glossy foliage in summer, and the brilliant hues of its autumn tints—the refreshing aroma exhaled from the opening leaves in spring, as well as the beautifully starry form of their mature growth—all combine to give it a distinctive character, and to render it a conspicuous ornament of every pleasure ground, every lawn, or every rural plantation of greater or less extent.

General Notices.

HERBACEOUS PÆONIES.—Herbaceous Pæonies flower early, and carry a great deal of foliage, and that upon rather slender stems; in order, therefore, to strengthen these and yet not to erect a forest of masts by tying each flower stem to a separate stick, I had some iron rings made about 30 inches in diameter, of ⅝-ths of an inch wire, and placed these under the foliage, supported on three iron rods with hurdle claws; this ring is raised as the plants grow, and the flowers are thus supported, leaning gracefully over their own foliage.

Pæonia Moutan, var. papaveracea, is no doubt the normal form of the Tree Pæony, and all the beautiful double-flowered varieties of P. Moutan are evidently the offspring of this paternal stock, and since it has sported so freely into beautiful varieties in this country there can be no doubt that the beautiful kinds which Mr. Fortune and other parties tell us are grown at Shanghae have mostly sprung from the same parent stock. It is highly important, in future improvements of this genus by hybridization, that shrubbiness of character should be secured, if possible, by one of the parents being P. Moutan v. papaveracea; the deep colors of the late-flowering herbaceous kinds might be selected, and plants possessing them, if necessary, forced to get pollen early enough to fertilize with. This would secure high color in the offspring, and if the fragrance of some could eventually be extended by crossing to all, we should at no very distant day possess

such a blaze of bloom in May (a month before the roses) as is nowhere to be seen except in the American garden at that season; and notwithstanding the great beauty of some of the so-called scarlet Rhododendrons, I know of none that would not look pale if placed by the side of a Scarlet Pæony.

Let no one imagine that we have to wait for hybridizing for plants to produce a Pæony garden now. The plants are already got and actually offered for sale in all our best nurseries, and the whole of the species and varieties that could be obtained are now growing here, and flowered last year in the highest perfection; it is because parties well versed in flower growing were quite taken by surprise to see that Pæonies could produce such effect that I have made notes for my own use from them whilst growing, and have now endeavored to draw public attention to the subject.—(*Gard. Chron.*, 1856, p. 69.)

Holchus saccharatus:—The following is my method of treating this plant:—Early in spring I sowed three seeds of it, only one of which vegetated; this I kept growing in the store, shifting the plant into larger sized pots, as required, until June, when it was in a fifteen inch pot. I then removed it to the greenhouse, the sash above it being left open for the summer. In August it sent up a large feather panicle of flowers, one foot in length. From these I have gathered 2000 fine ripe seeds, as you will see by the sample I send you. The stem, or cone, which is also ripe, is 12 feet high, and 1 inch in diameter, 3 feet from the root. Would not this plant, with its long drooping foliage, answer well as an ornamental plant for the clumps or borders of the pleasure ground? It should be raised in heat early, and planted out in June.—(*Gard. Chron.*)

Monthly Gossip.

European Tour of Mr. H. Daniels.—Our readers will have noticed by our advertisement in our last number, that our correspondent, Mr. Daniels, whose articles upon the Parks and Gardens of Great Britain have formed so interesting a feature in our last volume, and which will be continued in our present one, has returned from his tour, and now again offers his services as an architect, and landscape artist. We need not say, that, with what Mr. Daniels had added to his previous well-known reputation by his extended visits to all the principal palaces, parks, and gardens of Europe, no one is better fitted to be consulted upon the subjects to which he has directed so much attention. His tour was undertaken at great expense and loss of time, in order that he might become familiar with all the best specimens of architecture, and the best examples of park and garden scenery which Europe, and more especially Great Britain, affords. To gentlemen building country residences, and laying out or improving their grounds, we commend the services of Mr. Daniels.—Ed.

TWENTY-EIGHTH ANNUAL EXHIBITION OF THE MASSACHUSETTS HORTICULTURAL SOCIETY.—At a recent meeting of this Society it was voted to hold the next Annual Exhibition on the third week in September, commencing on Tuesday the 16th, and continuing open during the week, or longer, if the Committee of Arrangements deem it expedient. The appropriation for premiums has been increased, and very liberal prizes are offered to induce our amateurs, as well as professional cultivators, to make a grand display. We anticipate one of the finest exhibitions ever made by the Society.

THE VINEGAR PLANT.—Much attention has recently been directed to this plant, which has been used to considerable extent for furnishing a supply of fresh vinegar. A friend of ours has had it in use in his family for three or four years, and a small jar, holding three or four gallons, yields as much as he can use. Its botanical appellation is Penicilium glaucum. It is a fungoid plant, and is rapidly increased by taking off a piece and placing it on the prepared liquid, on which it floats and changes it into vinegar equal to that made from the best cider. We shall give our friends a receipt for making the vinegar in a future number.

PURPLE-BREASTED GROSBEAK.—I was pleased to see the remarks of your correspondent, J. P. Kirtland, of Cleveland, Ohio, concerning the purple-breasted grosbeak. Having never seen this bird, and being very slightly acquainted with its habits, I should be glad to obtain all the information respecting it which Mr. Kirtland should be pleased to communicate. According to the best accounts of this bird, it would seem to be justly entitled to be called the nightingale of America; but it is not known in the New England States. The purple finch, or American linnet, an allied species, is very common with us, and is a superior singing-bird.

There is another bird of this genus, of which I should be happy to learn the history, and would call Mr. Kirtland's attention to the following remarks from P. H. Gosse's "Canadian Naturalist":

"C. Notwithstanding the day has been so warm, now that the sun is down, the air is chilly and even cold. (April.) Listen to the singular sound proceeding from yonder cedar swamp. It is like the measured tinkle of a cow-bell, or regular strokes upon a piece of iron quickly repeated. Now it has ceased.

"F. There it is again. I will give you all the information I can about it, and that is very little. In spring—that is, during the months of April, May, and the former part of June—we frequently hear after nightfall the sound you have just heard: from its regularity it is usually thought to resemble the whetting of a saw, and hence the bird from which it proceeds is called the saw-whetter. I say 'the bird,' because, though I could never find any one who had seen it, I have little doubt that it is a bird. I have asked Mr. Titian Peale, the venerable Professor Nuttall, and other ornithologists of Philadelphia about it, but can obtain no information on the subject of the author of the sound: it seems to be 'Vox et preterea nihil.' Carver,

in his amusing travels, mentions it as being heard near Lake Superior; naming it, if I recollect rightly, the whet-saw. It may possibly be known, but I find nothing of it in Wilson or Bonaparte. Professor Nuttall was acquainted with the note, but told me plainly that the bird was unknown. I conjecture it may be some of the herons or bitterns; or, possibly, from a passage in Bonaparte's Ornithology, the *Evening Grosbeak, (Fringilla vespertina.)* He says of that bird: 'Their note is strange and peculiar; and it is only at twilight that they are heard crying in a singular strain. This mournful sound, uttered at such an unusual hour, strikes the traveller's ear, but the bird itself is seldom seen.'"

Mr. Gosse concludes by saying: "Accident may throw light on this, as it has done on some other subjects."

I would refer this matter to your correspondent, and to the readers in general of the Magazine of Horticulture. Can any one give us some certain information concerning the saw-whetter, and tell us whether it be identical with the evening grosbeak? I am inclined to think that the sound uttered by the evening grosbeak is a different one; and the same which has been described to me by an observing acquaintance, as resembling what musicians call a slide, commencing with a low note, and sliding upwards through the extent of an octave, with a peculiarly plaintive modulation. Is this the note described by Bonaparte as the song of the evening grosbeak? If not, from what bird does it come, and from what species proceed the mysterious sounds of the *saw-whetter?*—W. Flagg, *Andover, Mass.*, 1855.

Massachusetts Horticultural Society.

The following are the preliminary remarks of the Report of the Committee on Fruits, which were not in readiness when we published the awards in our January number:—

"Previous to stating the award, your Committee cannot but congratulate the Society on the success attending this department. While there has been no diminution in contributions, the fruits have in nearly all instances been of marked superiority. The fruits are generally better grown and more sizeable, showing favorably in comparison with previous years, both at the Weekly and Annual Exhibition. It is evident, on all sides, that increased care is being bestowed on the cultivation of fruits, particularly the pear. We now have the St. Michael and other varieties—probably never better grown specimens—whereas a few years since they were considered as scarcely worth gathering. The working of the pear on the quince stock has undoubtedly had its effect upon many varieties, resulting most favorably.

It is believed the pear succeeds as well or better in this vicinity than in almost any other part of our country, and will compare with the same fruit grown in any region. We certainly had abundant proofs of this

at our Annual Exhibition, from the lips of various noted foreign amateurs, who have witnessed many like exhibitions in England and France. It is a fruit that is constantly in demand, (at least the late keeping varieties,) and much of it is sold to go to New York, and even as far as Washington. A proportion is sold with us directly from the producer, while there are various dealers constantly furnishing the tables for the hotels and private parties during the winter. An attempt was made at a statistical account, but as it is not complete, it will not be furnished at this time. The prices range from 50 cents to $1 50 per dozen, and often as high as $2 is paid for some of the choicest specimens—a price equalling the amount demanded for a barrel of apples; and certainly it cannot be as much work to grow a dozen choice pears as a barrel of apples. It may be urged that the apple tree requires less attention than the pear. One thing is quite certain, the pear will not bear neglect; it requires attention at intervals during the whole season, and what is there belonging to the garden that is not impatient of neglect? "If a thing is worth doing at all, it is certainly worth doing well;" and it is believed few fruits will give a better return than will the pear, whether grown as a standard or a dwarf. In several instances, amateurs have realized five hundred dollars annually from the surplus stock of pears from a garden.

During the past season we have had an exhibition of all varieties of pears grown on quince, equalling in size, fairness of skin, and flavor, the best specimens ever shown in former days. In some instances, the growers attribute the result to a free use of De Burg's super-phosphate of lime,—in others, to the liberal use of ground bone. Without a free use of some kind of manure, and good tillage, we should not expect a good return.

Few seedling pears have been exhibited the past season,—two, however, are worthy of particular mention, viz., the one shown by Mr. McLennan and the one shown by Mr. Walsh.

The Easter Beurré, Beurré Clairgeau, B. Sterckman, Doyenné Sterckman, Glout Morceau, Beurre Langlier, and B. Superfin, have more than sustained their former reputation.

April 14th.—Messrs. Lovett, of Beverly, exhibited the Northern Spy and Ladies' Sweeting, being from trees planted by their late father. The fruits were not only of remarkable size, but were the best specimens of the two varieties ever exhibited at the Society. To the Ladies' Sweeting, as exhibited from all quarters, we would mete out the highest praise, and we wish we could speak in like terms of the Spy; but from nearly all the growers in this vicinity, the past season, there has been the same complaint, viz., "dry rot." Trees have been loaded down with what appeared to be a fine crop, but in going into the tree, to pick for autumn gathering, nearly all the largest were found to be destroyed by the rot: it was the same in a gravelly soil or deep rich loam.

Mr. Bowen Harrington, during the late winter and early spring months, made his usual handsome display of the Baldwin and other late keeping apples.

Mr. Manning and Dr. Stetson have shown the Fallawater, till late in

March, in the finest state of preservation. And the former gentleman speaks in high terms of its bearing quality.

Many new varieties of apples have been introduced the past season,—the most prominent amongst them is the "Strawberry," an autumn apple, said to have originated at Greenwich, N. Y. It is of a large size, rather flattened, skin bright yellow, handsomely pencilled with bright red. The flavor is slightly aromatic, with an abundance of subacid juice. The tree is thrifty and said to be a great bearer.

During the past season, blackberries have been shown in abundance and of superior size. The "High Bush" is the variety which has been the most abundant; there were but few of the "Lawton." Of this latter we have too little experience to pronounce on its merits; of its fruitfulness there seems to be but one opinion, and should its flavor, size and solidity for market prove equal to the "High Bush," it will find a ready sale.

CHERRIES.—The contributions of this variety of fruit have been liberal during the whole season of its maturity. During the early part of the season, Mr. Allen made weekly exhibitions of those grown under glass, which were somewhat out of season, and of an increased size. His Black Tartarians were of so large a size, that nearly every specimen of one box measured three and a half inches in circumference. It is, perhaps, needless to say, that the Society is mainly indebted to Mr. Allen for contributions attractive in the Fruit Department, during the early weeks of the opening of the Hall.

The Black Eagle and Black Tartarian Cherries have proved excellent the past season. Mr. Merriam made a handsome display of the "Favorite," (Dr. Kirtland's Seedling,) with branches showing an astonishing fruitfulness. This is only one of some thirty seedlings, raised by Dr. J. P. Kirtland, of Cleveland, Ohio. A few of the seedlings have fruited in this section, viz.: Gov. Wood, Black Hawk, Favorite, and Kirtland's May. The former is the most highly prized, both for its flavor and productiveness; the tree is an erect, regular and handsome grower, and is worthy a place in even the smallest collection.

Prof. Kirtland is deserving of the warmest thanks of his horticultural brethren for his exertions in the production of new varieties of cherries, and the very liberal manner in which he has disseminated the buds and scions of each and all.

GRAPES.—Forced grapes have been shown, both early and late in the season; and, though there has been a great diminution of crop in general, there has been no deficiency at the Society's exhibitions.

The Society has been mainly indebted in this department for contributions, to J. Fisk Allen, C. S. Holbrook, Mrs. F. B. Durfee, Dr. Durfee, M. H. Simpson, W. C. Strong, James Nugent, Breck & Son, and Apollos Wales.

It will be remembered that both Mr. Allen and Mr. A. W. Stetson have given great attention to the production of seedling grapes, (which, for trial of quality, are first fruited by the aid of glass,) with the view to give the public an open-cultured vine, that will give superior grapes, ripening suf-

ficiently early to insure a crop in this region. Their success has been most flattering, in varieties heretofore spoken of, and to which may be added several from each gentleman, which have fruited the past year for the first time; all give the best promise as to quality.

It will be remembered that M. H. Simpson, Esq., gave us a fine display of grapes in January, 1855, and also furnished an article (see report of last year) on the feasibility of producing two crops a year. July 7th, 1855, Mr. S. made a fine exhibition of his several varieties of grapes, grown on the same vines which produced the crop in January preceding. The berries were fully grown, and well ripened.

GRAPES, OPEN CULTURE.—Contributions have been made of the Isabella, Catawba, Diana, Concord, Winne, Breck, Wyman, Swan, and Delaware. In consequence of the early spring frosts, and the mildew, which made its appearance just previous to the time of the ripening of the fruit, most crops of grapes were much injured.

The *Isabella* has been shown in abundance, though somewhat late, except those from Mr. G. B. Cutter; contributions from him have been exhibited somewhat in advance over others, and he has uniformly shown the best specimens of this variety. At the time of writing, January 29, Mr. Levi Jennings, (who, we understand, procured his vines of Mr. Cutter,) is selling Isabellas at from 75c. to $1 per lb. He raised about fifteen hundred lbs. the past season, which were *safely* packed for winter. These being about the only grapes procurable at this time, will account for the enhanced price.

Oct. 6th.—E. C. Tracy, Windsor, Vt., presented the Isabella, in bunches of *extra* size, while the berries were of so remarkable a size for this variety, that the Committee awarded Mr. Tracy the Society's silver medal. They were produced by the ordinary mode of ringing the branches.

Though the *Catawba* is grown in perfection by a few, so also is the Rose Chasselas, Sweetwater, &c., in our city gardens, and we should almost as soon recommend the culture of the latter varieties as the former, with the view to a remunerative crop.

The *Diana* has this year proved early, and superior to any former year, and we can recommend this variety, believing it will not fail to give a good crop in any season. Mrs. Diana Crehore presented a fine display of extra fine bunches and berries, from the *original* vine.

Mr. Brackett has uniformly given us the finest specimens of this variety, and as his mode of culture may be somewhat new to some, we herewith subjoin an extract of a letter from Mr. B., who will be found equally thorough whether in his studio or vineyard:—

WINCHESTER, Oct. 3d, 1855.

To the Chairman of the Fruit Committee:

Dear Sir,—To your request that I would communicate to you my method of cultivating our native grapes, particularly the Diana, the nature of the soil, system of training, &c., I cheerfully reply, not that I expect to throw any new light on the subject, or that my mode will be found to differ materially from that of others. The growing interest felt in this department, the certainty that it must continue to occupy a prominent position in the

horticultural art, assures me that the experience of any one, however simple, may be of service.

My little vineyard is situated on a side hill, facing the west, and protected on the north by a belt of pine woods. I should have preferred a more southern or eastern aspect. The soil is by no means what would be called a strong one; it consists of from four to six inches of turf mould, with a reddish subsoil about two feet deep, resting upon a bed of blue gravel. In preparing for the vines, the ground was trenched two feet deep, and the top soil put at the bottom. Stakes eight feet long were then set at the distance of seven feet apart, each way; one vine was planted to each stake, and immediately cut down to two eyes.

And here let me say a word as to the time of setting the vines. My experience is greatly in favor of fall planting. A vine set in the autumn (and it should be done as soon as the leaf falls) will in three years be as strong and as capable of bearing a crop of fruit as one of five years old set in the spring. The training of my vines is at once simple and ornamental. The first year two shoots are allowed to grow, and as they elongate are carried spirally, both in the same direction, about five inches apart, around the stake, and this is continued until they reach the top. The laterals are allowed to grow at random. In the fall they should be pruned back to within eighteen inches of the ground, and the laterals to one eye.

Second year, continue the two canes from the two uppermost eyes, as directed in the first year. The laterals will require summer pruning. In the fall cut back the canes to within eighteen inches of last year's wood. Continue this course until the vine is established the whole length of the post—whatever surmounts it is to be cut back. The fruit is borne upon the side shoots, and the pruning is on the short spur system. The form of the vine may be shaped to the taste of the cultivator; that of the pyramid is decidedly the best.

Those who understand the nature of the vine will readily perceive the advantage this system offers. The vine is thus kept at home. The light and air circulate freely through it. The buds break easily; there is no tendency in one part to rob the other of its due proportion of sap, and when once established requires less care than any other mode of training.

Some of my vines, the first year after planting, were watered with sink-drain water, and being satisfied that it injured them, I have discontinued the practice, and have since root-pruned them, in order to check too free a growth of wood. Many of my neighbors injured their vines by giving them large quantities of stimulating manures, such as fresh stable manure, dead horses or other animal manure; thereby exciting them to make an increased growth of long-jointed wood. I grow my vines for the fruit, and am satisfied if they make a few feet of short-jointed wood, and the only manure (if manure it may be called) which I now give them is a top-dressing of anthracite coal ashes.

The Diana, with me, has proved a great grower and free bearer—the bunches of good size, and the berries large, some of them measuring seven-eighths of an inch in diameter. It is a matter of surprise that this, the

most delicious of our native grapes, should have received so little attention, while new varieties, greatly inferior to it in point of flavor, have been heralded as the greatest acquisition to our list of hardy vines.

The past season has not been favorable to the ripening of out door grapes. —Respectfully yours, C. A. BRACKETT.

Mr. Brackett's grounds were originally a pitch pine (Pinus picta) forest. His mode of dressing the vines (with anthracite coal ashes) may be a new feature to some of our grape growers.

Oct. 6th.—Mr. Breck exhibited the "Wyman" grape. In consequence of Mr. Wyman having too liberally manured (mainly with liquid manure) his vine, the quality of the grape was unanimously pronounced much inferior to those shown in 1854.

"Swan's" seedling fully maintained its former reputation for quality.

Mr. Bull exhibited the Concord at the various weekly shows, during its continuance, and both bunches and berries were fully equal to those shown the previous year—it is not expected that the Concord is to come in to the exclusion of the Diana, &c., but it will be sought for as additional to those which can for a certainty be grown and ripened sufficiently early to prove remunerative. There is little doubt that this will prove one of our most valuable wine grapes, and as such it will be largely cultivated not only here but in the West and Southwest. The "Breck," a seedling, was shown by Mr. Waterman—it possesses one quality with the Diana, viz., that of holding the bunches entire, without the dropping of a single berry, though not gathered till quite late in the season.

Delaware Grape.—Here we have a variety which has been known at the West some eight or ten years, though for the first time called to the notice of our Society. Specimens were forwarded by Mr. Thompson, Delaware, Ohio, with the view of learning if it could be identified by any of the grape culturists. None could identify it with any foreign variety, and though the fruit somewhat resembled the Rose Chasselas, yet it is a much smaller berry than either the Red Traminer, Garden Tokay, or Rose Chasselas, though fully equal in flavor. There seemed but one opinion with those best capable of judging, and that was that it would prove a seedling from some American grape. It is said to have originated in and been taken from New Jersey to Delaware, Ohio. The Chairman of your Committee has had it growing on the same trellis, during the past season, side by side with the Isabella and several other native vines, and while all others were seriously affected with mildew or blight, the Delaware was entirely free. This vine was received from Mr. A. Hill, a neighbor of Mr. Thompson, and both agree that it ripens with them some ten or fifteen days before the Isabella. The bunch is small, very compact; berries, small, round; skin, thin, of a coppery-rose color; pulp, very little; flavor, sweet, but sprightly and pleasant. And should it ripen earlier than the Isabella in this region, cannot fail to be an acquisition for open culture.

Peaches grown under glass have been exhibited in abundance. A few of the largest contributors have been Messrs. Allen, Wales, Holbrook and Durfee.

PELARGONIUMS will now advance rapidly, and will require more room: keep the shoots tied out neatly, and water more liberally as the plants acquire new foliage. Plants for late blooming should be topped for the last time.

ROSES will now be coming into bloom; repot all that need more room.

FUCHSIAS, headed in last month, will now begin to grow, and should have a good situation. Now is the time to increase the stock by cuttings.

HEATHS AND EPACRISES, done blooming, should be well headed in and repotted. Put in cuttings now.

LAURUSTINUSES, done blooming, should be well headed in, and kept in a cool place, to prevent them from making an early growth.

CALCEOLARIAS should be repotted.

TEN WEEK STOCKS, in small pots, now coming into bloom, should be repotted.

GLOXINIAS AND ACHIMENES will now be growing freely as the season advances, and should have a shift into fresh pots; plant young bulbs for a succession.

VERBENAS, HELIOTROPES, SALVIAS, &c., should be propagated this month.

JAPAN LILIES, planted early, and kept in the house, will now require a shift into larger pots, placing the bulb an inch or two lower than it was before.

CHINESE PRIMROSES may have a shift.

PANSIES, for early blooming, should be repotted.

SEEDS of Petunias, Stocks, Balsams, Asters, &c., &c., should be sown now.

GREENHOUSE PLANTS of all kinds should now be propagated.

GESNERAS of various kinds should now be potted.

FLOWER GARDEN AND SHRUBBERY.

The severity of our climate in March prevents but little being done at this season. Occasionally, however, we have an early spring, and when they occur much time may be saved by taking advantage of the fine weather.

PRUNING is one of the operations which may be performed now. In all shrubberies there is always more or less dead wood to be cut away, and straggling branches to be headed in; this can be done safely now.

CARNATIONS, PANSIES, &c., in frames, will require attention. They should be protected in cool nights, but should have an abundance of air and light to harden them off after their long confinement under the snow.

TULIPS and other spring flowering bulbs will begin to make their appearance above ground before the end of the month, and where there is a thick covering a portion of it may be removed, leaving sufficient to guard the young and tender shoots from frost.

HERBACEOUS PLANTS may have the same attention.

WALKS should be raked and rolled as soon as the frost is completely out, and lawns rolled, and top-dressed with guano.

THE PROGRESS OF GRAPE CULTURE.

The cultivation of the grape, under glass, has received an unusual share of attention from our cultivators during the last fifteen or twenty years. For a long time previously, various attempts were made to cultivate it successfully in the open air; many zealous amateurs spared neither time nor pains to accomplish such a result, and it was confidently believed, from the character of our climate, that it could be as well done here as in France, where its growth had arrived at such a high state of perfection. But such fond anticipations were not realized; occasionally an experiment was successful, owing to some favored locality or unusual treatment; but it became apparent that, although our temperature, during summer, was ample, the dryness of our atmosphere was prejudicial, and our winters altogether too severe for the vines, rendering their protection indispensable at that season. The latter cause alone, however, would not probably have been a formidable objection to its cultivation; for, though a somewhat laborious operation, this could have been overcome. The fatal obstacle was their liability to mildew. No art could wholly obviate this. By careful treatment, the evil was alleviated; but, so uncertain was the crop, it soon became evident that its out-door culture must be abandoned, and artificial means resorted to if we would possess this delicious fruit in all its excellence.

This point once settled, enthusiastic amateurs turned their attention to its growth under glass, and with great success: they soon satisfied those who doubted, of the most favorable results, by the beauty, the excellence, and the abundance of the crops. Its culture spread, slowly at first, but gradually gained ground, until, with the increased attention given to horticulture in all its branches, it became one of the most important objects wherever the art of culture was carried to

the highest perfection, and at the present time the grapery, either with or without heat, is not only an indispensable addition to the grounds of every lover of the grape, but the fruit is produced in such abundance that our markets are supplied with it at a price within the means of the humblest individual.

All this has been the work of scarcely more than twenty years: before that period graperies were only found in the gardens of a few of our most wealthy people, and the fruit was esteemed one of the greatest luxuries, and only to be obtained at a high price. Nearly or quite all were then produced by artificial heat, and very few of what are now termed cold vineries were to be found; but as soon as it was ascertained how easily the grape might be raised in this way, and at what a slight expense, they were no longer confined to the wealthy, but these vineries became a necessary appendage to hundreds of gardens throughout the Middle and Eastern States.

The artificial culture of the grape has always been considered as requiring a high degree of skill to produce the most successful results. Volumes have been written upon the subject, from the time of Speechly, the father of the grape culture in England, to the present period; yet it is doubtful whether one in twenty of our cultivators have produced as fine specimens as were raised fifty years ago. Great quantities of grapes are raised, and some of them exceedingly fine, but the larger part are of ordinary quality, and fall far below the standard of the old English grape growers. The truth is, it requires a great deal of practical knowledge and skill, to grow fine grapes,—more than most amateurs or even gardeners will acknowledge; and until the notion is dispelled that it is a simple operation which almost any one may accomplish, we cannot expect to see a high standard of culture. True, in the infancy of any art, we cannot expect to find proficiency in all; but if there is an earnest endeavor to attain to it, and a desire to learn, we may ere long look for a higher condition of grape culture than has heretofore been seen.

These remarks have been suggested by a recollection of

the rather inferior specimens of grapes that have been exhibited the past four or five years at our horticultural shows; in very few instances have we noticed what might be termed superior grapes. Especially has this been the case with those raised in cold vineries; nearly all have been wanting in that rich deep color and fine bloom,—the indispensable accompaniment of good grapes,—while the berries have been of inferior size, and, more than all, the bunches have been badly thinned. Though the specimens have been abundant, they have appeared to lack—with some notable exceptions—the magnificence of bunch and berry which have heretofore been exhibited; and from whence we infer that among the multitude of grape growers there is a want of practical skill, without which it is impossible to produce this fruit in its greatest perfection: and here we may remark that it is not simply the management of the vines in which cultivators may be at fault, but we suspect it is also in the construction of the borders, the selection of soils and manures, as well as the drainage, &c. &c.; all matters of the greatest importance in the successful cultivation of the grape.

But while we mention this falling off in the growth of the grape generally, it is gratifying to record particular instances of success, or if not exactly success in legitimate culture, of experiments made with a view to obtain certain results, out of the ordinary mode of treatment. We have reference to the system of culture recently advanced by Mr. M. H. Simpson, of Saxonville, Mass., described by himself in our volume for 1855, (XXI. p. 83,) and which is to produce a crop in January, or three crops in two years from the same vines. The theory of Mr. Simpson is, that there is no necessity for so long a rest for the vines as has been usually supposed; that the foreign grape, being a native of Syria, where the winter season is much shorter than in more temperate regions, a period of three or four months is ample to secure all the advantages which nature intended for the vine to recover its exhausted energies, and that it was then ready for a new growth, and the maturing of its crop. The correctness of this theory has been doubted by many of our

oldest grape cultivators, and Mr. Simpson, sanguine of success, and not ready to be argued out of his position, is determined to maintain it by the best of all proofs—the unqualified success of the experiment.

We need not at this time attempt to show that Mr. Simpson's theory is not based on sound principles, and hence it cannot be sustained; he has gone too far, we think, towards substantiating his views by actual experiment to render it necessary to do so. He has already, within the space of less than two years, obtained two fine crops from the same vines, and the third is now approaching to maturity, and will be ripe in April. In the face of such evidence, notwithstanding it may conflict with our preconceived notions of grape culture, derived mostly from the observations of English practitioners, we must admit that he is accomplishing a most important work—is indeed solving a great problem—in regard to the habits of the vine; and notwithstanding somewhat similar views have been entertained by some English cultivators, and have been partially carried out, the credit will belong to Mr. Simpson of completely settling the question that the grape, under artificial culture, will successfully yield three crops in two years.

Mr. Simpson has most kindly promised to favor us with a statement of his whole course of culture, from the commencement of the forcing of his first, to the maturity of his third, crop, and we shall not, therefore, refer to any of the details of growth. We confess we have ourselves been surprised at his perseverance and zeal. We have eaten of the produce of his two crops, and have noticed the great excellence of his grapes; but while we have acknowledged their superiority, it was not without some misgivings in regard to his future success. Not that we apprehended he had established a false theory, but that he might find it difficult to carry his plans into execution. In this respect, however, he has been highly favored by the assistance of his gardener, Mr. Burns, who, though doubtful of the soundness of Mr. Simpson's theory, entered zealously into the experiment and carried out all his views with the utmost fidelity; without such aid it

would have been difficult to attempt such a new and hazardous system of culture.

Anxious to witness the condition of the vines and the character of the present crop, by invitation of Mr. Simpson we visited his grapery in the early part of March. It is unnecessary to say that we were perfectly surprised at the vigor, health and beauty of the vines, and the abundance of the crop; a portion of which, among the earliest kinds, was already approaching maturity, though little more than two months had elapsed since forcing was commenced. The canes were broken as evenly as any that we ever saw; the wood was small, short jointed and round; the foliage rich deep green, thick and ample, the largest measuring fourteen inches across; the bunches large and finely shouldered, and the berries, though not yet all thinned, large and well set, promising clusters weighing from one to two pounds each of the Black Hamburgh and other heavy kinds. The house is span roofed, with about forty vines, and the bunches, which average about twenty-five to each vine, will probably weigh, when mature, a pound each. Is not this a successful condition of the vines after the growth of two crops in eighteen months?

Of the expediency of pursuing such a course of culture, there will be different views: the same results may, no doubt, be obtained in other ways, and perhaps at less expense, for Mr. Simpson does not pretend that his plan is unattended with considerable cost; those who wish fresh grapes in the winter months must expect to pay for such luxuries: but that he has established the theory that it can be done, there is very little doubt. His grapery is about seventy feet long, and divided by a partition in the centre. By the aid of this division, he will have three crops a year,—in January, April, and September,—viz.:

North house started	Dec., 1855.	Ripe crop in April, 1856.
South house started	April, 1856.	Ripe crop in Sept., 1856.
North house starts	Aug., 1856.	Ripe crop in Jan., 1857.
South house starts	Dec., 1856.	Ripe crop in April, 1857.
North house starts	April, 1857.	Ripe crop in Sept., 1857.
South house starts	Aug., 1857.	Ripe crop in Jan., 1858.

Such is the system which Mr. Simpson has marked out for his guidance, and we have little doubt that he will succeed, as he has done with one house already.

We have remarked that we should not enter into a detail of his practice, but we cannot omit to state some of the principles on which his theory is based. They are,

1st. To perfectly ripen the wood, leaf, and bud.

2d. To secure a thorough resting of the vine by withholding moisture from the roots; and,

3d. To keep up a brisk root action, throughout the growth of the crop.

These are the main points in Mr. Simpson's system, and the failure to maintain either of these will be fatal to the crop. Without mature buds no embryo fruit is formed. Without withholding moisture after the crop is gathered, the wood cannot be ripened; and without a vigorous root action, by means of a warm border, the completeness of the two first principles is entirely lost.

Thus it will be seen that both theoretical knowledge and practical skill are brought to bear upon the culture of the grape on Mr. Simpson's plan; for he is not content with simply producing the increased number of crops, but the fruit must be of the highest excellence or the theory abandoned.

All who appreciate the difficulties of ordinary forcing in a climate like ours, and especially in such an unusually severe winter as the last, must admit that it is no easy task to perform all Mr. Simpson has undertaken, and that the expense is no inconsiderable item, though this he considers as nothing to the importance of his experiment. Constant vigilance is required to keep the temperature of the border and the house, both day and night, in just the right condition; for a single hour's neglect, of a zero night, would destroy all the expectations of a season. Without all this attention failure would be the result.

Now what we would be glad to see, to maintain our superiority in grape culture, is the same zeal and interest among other cultivators which is manifested by Mr. Simpson. We should not then have to complain of inferior specimens at our exhi-

bitions. We do not mean zeal in carrying out the theory of three crops in two years, but, under the old and legitimate system of cultivation, growing *one* crop a year, but that crop a good one. It is gratifying to find so much attention devoted to the culture of the grape under glass, even though the best results are not attained. But will our amateurs rest satisfied with this? Will they be contented to look upon the magnificent specimens which skilful growers allow us occasionally to admire, yet never attempt to rival them, or make any advancement over the ordinary condition of growth? We hope our remarks may awaken attention to the importance of the subject, that the reputation of our grape growers may be quite equal to that obtained in other departments of horticultural art.

DROUGHT.

BY WILSON FLAGG.

In every climate, it will be found that the indigenous plants and animals are adapted to the circumstances to which they are liable to be periodically exposed. Between the tropics, where the year is divided into two seasons, the wet and the dry, both the plants and the animals are organized in such a manner as to meet these emergencies with impunity; and so inured do they become to these alternate extremes as to suffer more or less when they are secured from them. The leaves of the trees are tough and coriaceous, and have a glossy surface that prevents the rapid evaporation of their moisture, and reflects the fervid rays of the sun, without absorbing too great a portion of its heat. The same smooth and polished surface secures them from excessive moisture in the wet season. Nature has thus provided a single expedient to serve a double purpose.

Similar adjustments, with regard to fruits as well as foliage, protect them in tropical climes from extremes of heat, dryness and moisture. While those of northern latitudes are invested with a mere film, like the cherry, the raspberry and

the apple, the southern fruits have a rind like that of the lemon and the orange, or are enclosed in a case, like the banana. The fruit is thereby enabled to resist the extremes of the climate, and will not suffer decay so rapidly as the northern fruits, which are destined, by the regular course of the seasons, to be destroyed by frost, before many weeks. Another provision for the protection of tropical fruits and foliage, is the essence contained in their outer case, rind or covering. This aroma, being far more volatile than water, evaporates rapidly from the surface, and keeps the fruit and the substance of the leaf constantly cool, even when exposed to the direct rays of the sun, in a hot and dry atmosphere, without exhausting their juices. The pulp is thus preserved in a moist state, until the seed is fully ripened; and the foliage is kept moist until it has performed its destined functions, by the free evaporation of this volatile essence. Probably by the operation of some chemical principle, the water, which is used up in the elaboration of this essence, is small compared with what would be consumed, were the cooling process carried on by the direct evaporation of water from the surface of the leaves and fruit.

In northern climes, the plants are organized with reference likewise to two opposite seasons, not of moisture and drought, but of heat and cold. Summer and winter they have, instead of a wet and a dry season. Hence, for the most part, the trees are furnished with a deciduous foliage, and the herbaceous plants with leaves and stalks, that die down to the surface of the soil, and continue their existence by means of their roots. Some of these roots suffer their period of rest chiefly in the latter summer and autumn, and vegetate in winter below the action of frost, and produce their flowers in early spring. Such are the hyacinth, the crocus, and the snow-drop, and many other bulbous-rooted plants, whose bulbs remain so deeply buried in the soil as to allow their fibrous roots to push downwards below the frozen earth, and to be in readiness to sustain the wants of the plant at the very earliest thawing of the earth. The future plant being preserved in an embryo state in the bulb, is able to endure

with impunity any amount of heat or drought to which it is liable to be exposed.

But nature has not protected the plants of the temperate zone against the effects of drought, which in the usual course of things, as instituted by nature, would be of very unfrequent occurrence in these latitudes. In all temperate regions, where the hand of man has not interposed and created an artificial state of things, nature has provided a constant and equal supply of rain and moisture for the wants of the indigenous plants. This is evident from the structure of their foliage, which is not protected against the deleterious influence of long continued or frequent droughts. The land is covered to a certain extent with wood and shrubbery; and the climate, under these circumstances, is affected with that proportion of heat, dryness, cold and moisture, which is suitable to the wants and habits of vegetation. If all men who cut down forests had correctly understood meteorology, and had governed all their operations by the principles of this science, studying the effects of the different modes of clearing and planting upon the climate, and acting in conformity with this experience, many a region of country, once fertile and now a desert waste, would still have retained its ancient fertility and beauty.

I have often been surprised at the zeal which our legislative bodies have always manifested in encouraging the best modes of tilling and planting the soil, while they looked with perfect unconcern upon operations extensively going on, which, if not checked, must, before a great lapse of time, render half the country a desert. Among other subjects of investigation which have been proposed by our legislatures, why has it not occurred to them to institute inquiries respecting the general causes of humidity and drought, the sources of rain, and the laws that influence not only the quantity but the frequency of showers. Such investigations, made by committees of scientific men, would lead to many important discoveries, even if they did not prove the correctness of our present views. In order to promote the interests of agriculture, we must study the sources of heat, moisture and fertility,

and take heed not to infringe upon any of the conditions on which these sources depend.

Most people comprehend the value of trees for timber and fuel, and their advantages for shade and ornament: but their agency in promoting the fertility of the soil, the humidity of the atmosphere, the fullness of the streams and wells, and the salubrity of the climate is more imperfectly understood. But according as we investigate the subject, we shall be convinced that a certain proportion of forest in every country is necessary to preserve that regular supply of moisture which is essential to the growth of plants and the general health of vegetation; and that while the removal of a large portion of the timber, in a country which is entirely covered with forest, is necessary to render it available for agricultural purposes,—still, if the country be deprived of its wood beyond a certain limit it will become subject to pernicious droughts, its rivers and springs will be dried up, and the land rendered waste and unprofitable.

All scientific observers acknowledge that trees in full foliage condense moisture from the vapors of the atmosphere, and conduct it to the earth; that these vapors would remain for an indefinite time suspended in the atmosphere, until they met some such condensing agents, and that in proportion to the quantity of forest will be the amount of moisture thus arrested in its progress and carried down to water the surface of the soil. Not only the foliage, but the branches of trees, after their leaves have fallen, have the same attraction for the moisture of the air, as may be proved, whenever there is a fog, by the wetness of the ground under the trees, compared with that in the open plain. Trees, therefore, act the double part of supplying the atmosphere with moisture, which they draw up by their roots from the depths of the earth, and discharge in an invisible form through the breathing pores of their foliage; and of wetting the surface with the moisture which they draw down by condensation from the atmosphere.

Trees are likewise, in frequent instances, the immediate occasion of showers, by conducting to earth the electricity of

clouds, and thereby inducing that non-electric state which is necessary to cause them to discharge rain. An *organized* cloud is an aggregation of vaporous globules which are suspended in the atmosphere, and held in this state of *union without contact*, by being in a similar electrified condition, and kept separate according to that law of electricity which causes two pith balls, similarly electrified, to repel one another to a certain distance. All those clouds which have a definite or organized arrangement of parts are charged with electricity; there are others which are unorganized: such are the vapors that rest on the surface of the earth, and which do not produce rain, except by acting as conductors between the earth and the organized clouds in the upper atmosphere.

To illustrate the influence of trees in producing showers, we will suppose a dense cloud in an electric condition to be passing over a desert plain: so long as it encountered no conducting object in its journey, it would remain suspended in the heavens until it met another cloud in an opposite state of electricity, or until it was absorbed into the atmosphere. But if it should pass over a forest sufficiently elevated to exert an influence upon it, the trees, which are good conductors, especially in summer when their sap is flowing, would draw down the electricity from the cloud into the earth. At that moment all the vaporous particles of the cloud, no longer repelling one another, are mingled together by the wind, and coalesce into drops of rain which descend to the earth in showers. By this principle we may explain the cause of a phenomenon which we often witness in a dry season on the coast. A dense cloud is seen to pass over our heads without affording one drop of rain until it reaches the ocean; when the vapors that rest on the surface of the waves acting as conductors, cause the cloud to part with its electric fluid, and to fall in copious showers, at the same moment.

I would not assert that the foliage of trees produces more humidity by exhalation than the same amount of foliage of herbaceous plants: but a square acre of ground covered with trees is productive of a vastly greater quantity of foliage than a square acre covered with any description of herbaceous

plants; and as the roots of trees penetrate deeper than those of other plants into the soil, they draw up the moisture from a greater depth, and do not therefore, in the same proportion, exhaust the humidity of the surface. To these influences of forests upon the humidity of a climate, we may reasonably attribute the fullness of the streams in all parts of this country, a century ago, compared with their present diminished bulk. This is a matter of common observation, sustained by indubitable proofs. In the same way may we account for the increasing frequency and severity of droughts, as the population has increased, and the woods are diminished.

Mr. Balfour, an English botanist, remarks: "*When forests are destroyed, as they are everywhere in America by the European planters, with an imprudent precipitation*, the streams are everywhere dried up, or become less abundant. In those mountains of Greece which have been deprived of their forests, the streams have disappeared. The inconsiderate felling of woods, or the neglect to maintain them, has converted regions noted for their fertility into scenes of barrenness. The sultry atmosphere and the droughts of the Cape Verd Islands are attributed to the destruction of forests. It is stated that in large districts of India, climate and irrigation have rapidly deteriorated from a similar cause, and that the government are now using means to avert and remedy the mischief. In wooded countries, where the rains are excessive, as in Rio Janeiro, the climate has been improved by the destruction of trees. Gardner says that since the axe has been laid on the dense forests, surrounding the city of Rio Janeiro, the climate has become dry. In fact, so much has the quantity of rain diminished, that the Brazilian government was obliged to pass a law prohibiting the felling of trees in the Corcovado range."

"Dr. Cleghorn remarks, that the conservation of forests is unquestionably a subject of great importance. It is now occupying the attention of the government of India, and of many other governments. The physical history of every country proves incontestably that a moderate extent of forests, especially on mountain slopes and elevated rocky ground,

where tillage is impracticable, promotes to a high degree both the agricultural and manufacturing interests of individuals, as well as the physical soundness and productive resources of extensive countries. It appears that the influence of forests in a physical, economical, and hygienic point of view, is deserving of a more complete investigation than it has yet received. By felling trees which cover the tops and sides of mountains, men in every climate prepare at once two calamities for future generations—the want of fuel and the scarcity of water."

These facts seem to demonstrate that trees on elevated situations have a greater influence as conductors of electricity and causes of showers, and that their benefits are proportional to their elevation. And we may well regard it as one of the instances of the beneficence of nature, who has so arranged it in her economy, that trees should be the most serviceable in those situations which are of the least value for the purposes of grazing and tillage. A forest consisting of those trees which, like the oak, extend a tap root deeply into the soil, may be compared to so many hydraulic rams conveying water from the depth of the soil, and afterwards exhaling it into the atmosphere. It seems to me, therefore, an incontrovertible point, that one of the most available means of preventing summer droughts is to preserve the forests on all our lofty hills and barren elevations, and on all sandy plains, and to cover all such places as are already bald, with trees of the most valuable species.

There can be no doubt that many a rain cloud might be arrested, when passing over a tract of country, by means of lightning rods, attached to the tallest trees in the most elevated places. These rods would conduct the electric fluid from the passing cloud, which would then descend in showers upon that region. It is undoubtedly attributable to the rods and spires and chimneys of a large city that showers are more frequent and abundant there than in similar open situations in the country. I allude to the effect of lightning rods in this connection, not to recommend the use of them, but to illustrate more clearly an important principle of meteorology.

The time has come when every old State in the Union should regulate the cutting down of forests by positive and direct legislation. All barren hill-tops and steep declivities should be kept constantly covered with wood, and provision should be made for planting them, or for causing a spontaneous growth, to supply all vacancies made by clearing. Planting should keep pace with clearing except in territories already too extensively wooded. There would be no loss of pasturage occasioned by covering half the area of any moderately steep hill with wood, from the summit downwards. The remaining portion would produce more pasturage, with the protection, the greater humidity and fertilization, caused by the trees, than the whole surface would produce without them. On the other hand, all deep vales and lowlands, containing a productive soil, should be deprived of their timber, that the land on which it grows might be rendered available for tillage.

As it would not suit the genius of our republican institutions were government to dictate to the citizen the manner of using his own property, the minds of the people must be influenced by bounties and awards. Let the State enact a law, exempting from taxation all woodland, situated on a hill, mountain or declivity, or on a dry sandy plain. These situations should be precisely defined in the act, and all the wood cut from them should be made subject to a double rate of taxation. The act should also provide for paying out of the public treasury a certain sum per acre, for the planting of certain soils and situations with trees of specified sorts, the sum to be paid to the owner of the land on the third year after planting, if the trees gave evidence at that time of being in a healthy and thriving condition, and were planted in sufficient quantity.

Not only the farmer but every citizen is interested in this matter. Upon the proper condition and quantity of forest the community must be dependent not only for its continued supply of timber and fuel, but for regular supplies of rain in the summer, of water for the mill privileges on the smaller streams, and indirectly for the prosperity of every interest.

Were the different States, in the aggregate, to expend annually a million of dollars, judiciously appropriated for the planting of forests, on lands which are at present good for no other purpose, in ten years from the time of the appropriation, the country would be made ten millions more wealthy. And unless some such measures are used for the preservation of a constant supply of growing forest, large tracts of land, now fertile and productive, will ere long be converted into barren wastes; and the country will be deprived of its natural resources, in proportion to the increase of its population.

EUROPEAN PARKS, NO. V.

BY HOWARD DANIELS, ARCHITECT, N. Y.

THE LONDON PARKS.

St. James's Park, being the one nearest to London, I shall describe first.

This park contains 87 acres, the west end of which fronts on Buckingham Palace; the north side fronts on the mall, leading from the front of Buckingham Palace; the east end fronts the Admiralty, Horse Guards, and parade; the south side is bordered by Bird-cage walk, (a very broad gravel promenade.) It was first formed by Henry VIII., and was rearranged and planted in the reign of Charles II., by Le Notre, the great French architect, by whom the gardens at Versailles were designed. At this period a chain of small ponds was converted into a lake.

During the reign of George the IV., the whole was again remodeled, the lake greatly enlarged, and a number of new plantations added, nearly as at present existing. These plantations are very well arranged, consisting chiefly of hollies, and pyracanthus, a few box, aucubas, &c.

The finest feature in this park is its long narrow sheet of water, in the centre, running nearly the whole length of the park. It is kept pure and full by a supply from several water works, and is enlivened by an extensive collection of aquatic

birds, belonging to the Ornithological Society, which are a source of continual interest and amusement to the public, and a most interesting study for those engaged in such pursuits. The eastern end of the lake is well masked by a long island, which is however entirely clothed with willows. There is, also, here, a pretty Swiss cottage belonging to the Ornithological Society, and used as the residence of their keeper. There is, also, a small island in the west end of the lake, and near the upper end is a rock projecting eighteen inches above the water, from which a jet rises eighteen feet in a broken series of streams.

The park slopes gently to the east; the eastern end of which is quite flat and only two feet above the water. The margin of the water, on the northern side, adjoins a gravel walk for some distance, and being unprotected against the action of winds forms a hard and disagreeable line. As a rule, vegetable forms only are at all adapted for uniting with water along its margin, when these are tame and flattish; and grass, relieved by specimens or masses of shrubs and trees, is in such cases by far the most appropriate. In places where the banks are steep and bold, rocks and roots scattered irregularly over the surface, with more ragged and wilder plants, will be very effective.

There are many winding walks, which lead the visitor here between new plantations, and there along the side of the water, and the grass in all parts is free to the public.

In addition to a large number of fine old elms, which yet remain, there is a numerous collection of ornamental trees and shrubs in the younger plantations, and most of the rarer kinds have their names, native country, year of introduction, and tribe to which they belong, neatly painted on iron labels.

The commoner kinds of herbaceous plants and annuals occupy the borders, which present a very meagre and starved appearance. Among the trees which flourish best here is the American Plane, *(Platanus occidentalis,)* which is in a remarkably thriving and healthy state, and retains its greenness during the dryest summer weather, also late in the autumn. It seems, from what I observed here and elsewhere, to be an

invaluable town tree in this country. The White Poplar, with the Hollies, Pyruses, and *Ailanthus glandulosus*, flourish well and are the chief varieties.

In the younger plantations the more common plants are encroaching on the better sorts, and such as do not thrive in a town atmosphere.

A great desideratum, in all such places, is to grow only or chiefly such sorts of plants as will maintain a healthy appearance, and successfully struggle against the atmospheric disadvantages of the locality.

In this park a great many glimpses or views are obtained in walking about it of many noble and striking architectural objects, to which the old elm trees form such varied and excellent foregrounds. I would particularly mention the towers of Westminster Abbey, which are well introduced and well accompanied from so many points; the new houses of parliament, which, when completed, will afford several fine groups; Buckingham Palace, as viewed from the east end of the lake, near the Swiss Cottage, the entire length of the lake, stretching out between the palace and the observer; the Duke of York's and Nelson's columns, with Carlton Terrace, Marlborough House, and a variety of other mansions.

The mall, which is composed of four broad avenues of trees, is on the north side of the park; three of these avenues are used only by pedestrians. One of them leads to Buckingham Palace, which is thus advantageously seen at the end of a long vista; the other end opens into New Street, on the right of which is a broad grand parade in front of the Horse Guards. The trees forming these avenues appear to have been at one period all elms; but as some of these have died out, they have been unhappily replaced by elms, limes, and planes promiscuously.

Viewing St. James's Park as a work of art, it is far superior to Green or Hyde Parks, or Kensington Gardens, but it cannot be rated higher than a second class work.

GREEN PARK,

On the north side, fronts on Piccadilly; the east side is stud-

water has, however, a good effect. Along the south side of the garden, at a very short distance from the palace, a profusion of shrubs and exotic plants begin to appear; and here, also, there is a small flower garden of a very creditable character. Walks, winding among masses of shrubs, bring us occasionally to the margin of the lawn, affording a variety of pleasing views across it to the lake; and they sometimes carry us along the side of the wall next Constitution Hill, where the boundary has rather happily been disguised by dense plantations of shrubs and trees; the branches of the former now extending out on the lawn, with a nice fringy line, so as to show no dug ground or border. There is a good deal of the same kind of treatment throughout the garden, and it has a very pleasing effect in such a place as this, where flower borders are not desired. The masses of rhododendrons and other evergreens are in excellent condition.

The walk adjoining Constitution Hill gives exit from the garden near the Triumphal Arch opposite Hyde Park corner. Another walk is continued around in the direction of Grosvenor Place, and a branch walk also crosses the lake by the bridge. Both these walks conduct to the foot of the large mound on the western side of the garden, where another path is carried over the mound so as to afford many different glimpses of the garden, through the opening in the screen of shrubs. The face of this mound is planted chiefly with lilacs, and other deciduous flowering plants, which must be exceedingly gay in the spring of the year, but are rather dull in autumn and winter. They are for the most part growing on a grassy slope.

About midway along the top of the bank is a charming little Italian temple, called the Queen's summer-house, which is most admirably placed for commanding views of the lake and garden, and has a broad terrace in front of it, to afford space for enjoying them. In regard to both its position and character, it is quite the leading feature of the place. But its interior is still more worthy of attention, as containing eight frescoes illustrative of Milton's Comus, executed by Eastlake, Maclise, E. Landseer, Dyce, Stanfield, Uwins, Leslie, and

Ross. The ornaments and borders are by Gruner. This is a perfect gem of art, and a most fitting ornament to the garden of the Queen. From this point the large statue to the Duke of Wellington, on the Triumphal Arch, at the top of Constitution Hill, appears to be standing on a broad pedestal, none of the arch being seen. This is decidedly the best view to be had of that statue; and, looked at against the clear, strong light of a northern sky, towards evening, it is an exceedingly bold and impressive object.

This Royal Garden is a very creditable specimen, yet, in point of design and execution, and the manner in which it is kept, it is far inferior to many gardens owned by the nobility. This remark will hold good in regard to all the Crown parks and her Majesty's private gardens, with the exception of the Royal kitchen garden at Frogmore, which is probably the best garden of the kind in existence.

THE CHINESE YAM, OR DIOSCOREA BATATAS.

BY THE EDITOR.

No vegetable of recent introduction has attracted so much attention, in so short a space of time, as the Chinese yam, or Dioscorea batatas, as it is botanically called. It is only five years since it was first introduced into France, and the past season it was most extensively sought after and planted in all parts of that country. It received the attention of the most experienced and distinguished cultivators, among whom were MM. Vilmorin, Dutrochet, Pepin, and Decaisne, the latter of whom tried various experiments in its cultivation in the garden of the Museum of Natural History, and published a small pamphlet, giving an account of its history and the particulars of its culture.

In England, also, it has received considerable attention, and, through the exertions of Mr. Henderson of London, who planted it to considerable extent, and published a full

account of his experiments which were very successful, the public have been made acquainted with its merits and induced to give it further trial. Indeed, it is mainly through the gardening journals of London that we have obtained our knowledge of the Dioscorea, the information in the French journals, though more full, being for the most part not so accessible to our cultivators. The continued success of the French as well as English cultivators having awakened attention to the merits of this new vegetable, it is now much better known, and will be far more generally planted the present year than in the previous one, and no doubt with increased results.

It has been stated by some enthusiastic writers that the Dioscorea is not only likely to be a valuable auxiliary, but "entirely to *supersede* the potato," as an esculent vegetable. This, however, we must respectfully doubt,—for, though the potato, of late years, has proved a most uncertain crop on account of the disease which attacks it so fatally, it is difficult to believe that there is any other root which will effectually displace it. The Dioscorea will perhaps, as has been stated, prove a most valuable auxiliary crop when the potato may, as undoubtedly it often will, fail, and be esteemed by some even preferable to it; but to supersede the latter, is, we think, not the destiny of the Chinese yam.

It would, however, notwithstanding our great attachment to a vegetable which has proved such a blessing to millions, be a happy circumstance to know that our old favorite, now apparently doomed by disease, almost beyond hope of recovery, was to be replaced by another of more nutritious properties—of easier cultivation—more prolific in its produce, and certain in its crop. A new vegetable, possessing all these claims upon our attention, is certainly worthy of a full and fair trial in order to ascertain its true merits, and should not be overlooked and pronounced worthless because it is new. Already we have seen some notices in our agricultural papers that the Dioscorea is a native of a *tropical* climate, and therefore unfitted for our colder region. There is no truth in this; and the least information would have prevented the dissemi-

nation of such an error. The climate of the north of China, where the yam is supposed to be a native, is far from being tropical, as it is well known many of the Chinese trees, shrubs and plants are perfectly hardy in our latitude of 42°. The Chinese yam has already proved perfectly hardy in Paris.

There are some individuals who look upon the introduction of every new vegetable, fruit or plant, as a humbug, and denounce them in advance of any knowledge of their merits. We can well say to such carpers, as John Lowell said thirty years ago, in reference to the introduction of new plants or seeds, "Many may prove not to be adapted to our soil and climate—but this furnishes no reason for neglecting them. If one in a thousand should prove useful who can calculate its future value? If Sir Walter Raleigh, or whosoever else was the introducer of the potatoe into Europe, had contented himself with saying, 'This plant is very good in its native regions but cannot flourish in Europe,' what would not the world have lost?" Let, therefore, the Dioscorea be fairly tried; for if we may believe the French *savans*, its introduction is destined to create as important an era in the history of agriculture as the introduction of the potato did three centuries ago.

We have not room to go into all the details of the history of the Chinese yam, its introduction to France, the opinions of French writers in regard to its value, &c., but with a brief review of these, must confine ourselves to an account of the experiments upon its growth, that being the most interesting to all who intend to try its cultivation in our climate. Our own experiments have been confined to the last season; but they were satisfactory, and the present year we hope to extend them farther and test the value of this new esculent.

The existence of one or more species of yams in the garden of the Chinese has long been known, and the London Horticultural Society have among the valuable drawings of Chinese plants in its library, one of a "dark ragged root ten inches long and six inches wide at the broadest end, of which

nothing more is known than that it was obtained in the public vegetable market."

The French, however, succeeded in introducing one of these yams five years ago. It was sent by M. de Montigny, consul at Shanghai, to the Museum of Natural History of Paris, with the statement that it was consumed as largely as the potato in Europe. The Museum distributed the roots among several cultivators, and it was soon disseminated in various parts of France, and attracted the attention of scientific men. In 1854 it was first introduced into England by Mr. J. Henderson, of London, who cultivated it successfully and first offered the roots for sale. His account of it is highly favorable. "Boiled like a potato it proved extremely good with a rather nutty taste."

An analysis of its nutritive properties, made in France by order of M. Pepin, gives the following results, in 100 parts:

Water, - - - - - - -	70.40
Starch, - - - - - - -	18.30
Alkaline phosphates, (ashes,) - -	0.78
Albuminous matter, (a large quantity,) saccharine matter, (trace,) cellulose, mineral substances, &c. - - -	10.52
	100.00

M. Decaisne regards this yam as superior in quality to the potato, and richer in nutritive principles. Its roots are as white as snow in the interior; they neither contain visible fibres nor tough woody matter, and when boiled they become so soft that a slight pressure converts them into paste, which he can only compare to that of the finest wheaten flour. Cooked by steam or roasted they look and taste like the best potatoes.

Of its hardiness and keeping properties it is stated by M. Naudin that the roots lived out in the open ground in the winter of 1854–55 unharmed, with the thermometer at 10°, that they commenced growing the 15th to 20th of April, and that roots preserved in a cellar kept perfectly sound from October to May, without any sprouting, as is usual with the potato. It does not appear to be affected by heat or cold.

The roots of the yam, when grown to full size, are from 12 to 19 inches long, from 2 to 3 inches broad, and weigh from 2 to 4 lbs. each, (FIG. 7.) They are large at the bottom end, tapering gradually to the top, which is not much thicker than the finger. Six roots taken up on the 2d November, 1855, weighed 13¾ lbs., or 2 lbs. 4 oz. each.

7. TUBERS OF THE DIOSCOREA.

From all that has been written upon its cultivation, both in France and England, but more particularly in France, we gather the following hints in regard to its treatment:—

It appears to succeed best in a light, loamy or sandy soil, very deep, that the roots may penetrate it without any obstruction. It does not appear to be necessary that the earth should be very rich, though no doubt it should be in good condition. For field cultivation it should be ploughed deep, and then laid up into ridges eight or ten inches high, and about eighteen inches apart; but the roots should only be set out in the rows, six or seven inches apart, experience having proved that they may be safely and economically grown so close, as they are so long, and have so few side roots, that it is more important to get as many of them as possible than to grow them to a great size. The most profitable are those about the size of carrots; but it is all important that the ridges should be high, in order to facilitate the digging. The tops may be allowed to run over the ground, as is common in cultivating the sweet potato, or they may be staked up. From experiments made in France by M. Decaisne, both ways, it appears there is but little difference in the crop. The roots may be cut into sets an inch or two long, and planted on the

tops of the ridges and covered an inch or more deep. Their growth is not facilitated by starting them in heat but rather retarded, and the best results have been attained by planting them directly into the ridges. They should be allowed to grow till late in the autumn, and then dug and stored like potatoes. From calculations made by M. Decaisne from the product of a small piece of ground, he believes the crop will be much larger than that of the potato, perhaps double, though on this point he does not venture to state with certainty from his limited experiments. It is his opinion that only the upper half of the root should be used for planting, and the bottom or thick part retained for food.

8. PLANTS RAISED FROM CUTTINGS OF THE BRANCHES.

Mr. Henderson describes the Chinese mode of growing the Dioscorea, and also his own way of cultivating it as follows:

The manner in which the Chinese cultivate it is extremely simple. The earth is first formed into ridges, when small tubers, or portions of large ones, are planted on the top, at about three feet apart; after the plants have attained a little strength, the shoots are spread over the sides of the ridges and pegged down at the leaf end, six or eight inches from each other, (care being taken to cover the joints or parts pegged down with a portion of earth,) when they soon strike root and throw out tubers; by this means, immense quantities of roots, of the size of early-framed kidney potatoes, are raised on a comparatively small piece of ground.

The above is the ordinary Chinese mode of culture; but to obtain them of a large size, small tubers, or portions, are planted on ridges, at ten inches to one foot apart, and the plants are allowed to grow freely till late in the autumn, when

the foliage is cut away and dried, or partially dried, and given to cattle; the tubers by this means attain on an average one pound and upwards in weight. The produce, when the ground is required for other purposes, is taken up and stored away for winter and spring; and it seems a peculiarity in this root, if exposed to the frost, it is not injured by it, nor does it have any inclination for sprouting till the natural season for planting.

9. PLANTS RAISED FROM PIECES OF THE ROOTS.

Naturally, the propagation of the Dioscorea is similar to that of the potato; that is, planting out the small tubers where they are to grow; but now, when it is desirable to rapidly increase it, the roots may be cut into small pieces, potted, and placed in an exhausted hotbed, where they will soon throw up shoots; these may be taken off with a single leaf and inserted in small pots under a hand glass, where they will speedily root and form small tubers, (FIG. 8,) which may be turned out into properly prepared ground in May. The pieces of roots from which the cuttings were taken, will also form small tubers, (FIG. 9,) and may have the same treatment as the large roots; in this way a good stock may soon be produced.

IMPROVEMENT AND PRESERVATION OF SPECIES.—No. III.

BY A. R. P.

I WOULD not voluntarily have failed to fulfil my intention to contribute some additional remarks on this subject to your March number; but engagements away from home necessarily prevented their preparation. I am happy now to resume the consideration of the subject.

It may yet, perhaps, seem to some persons, who are not

observant of the true science involved in such an inquiry, to be an invertion of the processes implied by horticulture and agriculture, to make so much of seed-culture, when land-culture, or tillage, is the main thing accounted worthy of consideration. Of course, it is a great thing for the race "to make two blades of grass grow where one grew before," *without impoverishing the soil,*—and these italicized words constitute a very material emendation of the statement, as every good cultivator well knows;—but is it not quite as material, after all, to know with precision what kind of grass will spring up when we have tilled the ground and sown the seed? I think so. Yet this no one can know with any such desirable certainty, even in the matter of the grasses, without more attention than has hitherto been paid to the production of pure seed.

So we are only coming back in such inquiries to mother Nature, to learn wisdom from her beautiful provisions, and especially from her never-failing care of the progeny of her products! She is particular to take care of the perpetuity of each species in successive generations, and so has furnished various methods, by any one of which fertilization may be secured, and proper seed be produced. And in the rich fruits, which we have learned to prize for themselves only or chiefly, we are to discover simple seed-vessels, which may decay when they have finished their office in protecting the seed, which, at its full maturity, falls out from the corrupting mass, an ever-living thing, capable, thousands of years afterwards, of reproducing its kind of fruit. The thick-fleshed melon and squash,—the one so delicious to the taste, the other so valuable for food,—only illustrate how profuse is her contribution to human enjoyment and comfort, even while she is doing her work for the seed within. So if we have popularly and selfishly reversed her arrangements by rejoicing over the shell, to the utter neglect of the kernel, it may be worth while to remember, that the luscious pulp of the peach, and pear, and apple, and the profitable rind of the squash, are only the outer garments of the greater germs they encase!

Besides, the "improvement and preservation" of these good

varieties are dependent upon the same conditions. It is to be anticipated that the "improvement" would not offer much charm to the lazy and careless, who will always be content to "let well-enough alone." So they will be slow to essay any experiments on those fruits and vegetables which can be readily propagated, year after year, by cuttings or slips. Perhaps, on this account, the potato-rot may have suggested quite a lesson, in directing the attention of the community to the possible advantage of starting this vegetable, *de novo*, from seed. And if nothing has thus been gained in the expected vigor; something has enured in desirableness among the new varieties so produced.

But it should be borne in mind that when we continue to propagate from cuttings, we thus only lengthen out, as it were, a single life; and it is contrary to the laws of nature, and contradicts all analogy, to presume that this continuance will not gradually show signs of decay, and finally die out. The High Top Sweeting apple and the St. Michael pear may, perhaps, be regarded by some as furnishing evidence in point. It is certain that the latter, which once grew with all necessary vigor and yielded the finest of fruits in New England, on any soil and in any exposure, now needs peculiar treatment, and the coaxing of good cultivators, to pay for its place in the garden. It may therefore be considered as problematical, at least, whether good varieties can be long preserved without adopting the modes on which improvement depends. [We must dissent from these views.—Ed.]

But there are many products of the earth which are only to be procured again, in course, by their seeds; what shall we say of these? If, occasionally, an accidental combination of properties has proved highly advantageous in a new variety, Nature does not choose to be held responsible for the continuance of this beyond its own natural life. She will throw around it, however desirable to us and creditable to her processes, no especial protection against another accidental combination, which shall effectually annihilate all the good previously attained. No one will require examples in proof of this.

Supposing, then, that it is established conclusively to be highly desirable, even for the preservation of present varieties, to take some suitable precautions concerning the raising of proper seed, on what conditions will success depend, and what methods may be employed?

In the first place, it is indispensably necessary to make the object proposed prominent to ourselves, and the basis of all operations. This will induce the selection, with care, of a suitable plant, or tree, to raise the seeds from; even as the stock-fancier selects the animals for his stalls. Due reference must be had to several particulars, even descending to some minutiæ of detail. The form and shape of the tree, or plant, the hardiness of its constitution, its readiness to fruit well, are inherent properties, which are communicable by seeds.

After the selection of the parent stock, it is to be treated accordingly, properly cultivated, and not allowed to bear too freely, but made to concentrate as much of its strength as possible in the seeds which are to represent it. That is to say, when we are cultivating anything for this object of seed-bearing, we are not to hold the object secondary to any other considerations. If the experiment is made with a fruit tree, it would be well to reduce its fruit for that year to a minimum beyond the specimens which are to be preserved for seeds. And the same is as true throughout the vegetable kingdom. The whole crop of the tree, or plant, for the season, is not to be rated as so valuable as the success of such an experiment.

The next thing is to guard against admixtures, and to secure purity in the seed. As hybridization has more than an even chance in its favor, we must not leave room for it to occur. In providing against this danger, it is to be observed that very little reliance is to be placed upon the mere fact of distance from other varieties. A gentleman recently said to me upon this subject, "I can never rely upon the fruits of my squash-seeds, because I have a *neighbor* who will plant his squashes within *three miles* of my garden;" and many others have similarly disobliging *neighbors*. The bees, and other insects, have no narrow limits to their occasional or frequent ranges.

An incidental protection may sometimes be afforded by saving the seed of plants which happen to blossom when other varieties of the same species are not in bloom. Thus no difficulty will be found in securing the earliest and latest sorts of all vegetables. It may also be enough, with several kinds, simply to select the first fertilized blooms as being quite likely, to say the least, from position and a diminished tendency to hybridize, to be sufficiently pure. In this class I should be free to place the pea, bean, carrot, &c., though with these it would not be difficult to apply the directions yet to be given in more material cases, or for choice varieties.

Indeed, as a general rule it may be said, that the first matured fruits of all hermaphrodite varieties are most likely to produce vigorous and pure seed. So a good gardener should always save the seeds for the next year before he begins to regale himself, or others, with the results of his care and skill. It is poor economy, in this respect, to leave the latest radish, or the latest lettuce plant to mature the seed, which the first would have produced earlier and better, because in a more favorable season.

But more than this care is requisite in other cases, when especial reference is to be had to propagating the variety in all its particular properties. Such plants may be divided into two classes,—those in which the stamens and pistils are uniformly found in one blossom, or cluster of blossoms, and those in which distinct and separate, and sometimes remote, blossoms contain the two organs.

As to the first, the hermaphrodite, it is generally only necessary to protect the blossoms from all contacts, by wind or insect, with the pollen of blossoms from other trees or plants. But it would be prudent in such cases to observe that the pistil is fecundated by pollen from its own stamens; but ordinarily, as I have said, nature will not fail in effecting the work. In the second class, we must not only protect the blossom, in both parts, but we must also add mechanical agency to supersede those means upon which the fertilization is usually dependent, and which our protection has cut off.

For the necessary protection, fine lace bags will be found

to answer every purpose, especially for heavy flowers, such as those of the cucurbitaceous plants. And the pistils may be readily fertilized from the pollen of the opened anthers by means of a camel's hair brush.

With these precautions, and in this way, it is perfectly feasible for every one to raise seeds of any variety which he wishes to propagate. The peach, pear, apple and cherry, with all the vegetable tribes of our gardens, will be found to own one law of reproduction.

My own experiments, Mr. Editor, to which you have alluded, have not been very general. But I think I have tried these suggestions far enough to discern their value, and to test, in some measure, their truthfulness. I applied them last year, and the year before, to the raising of squash seeds; and, if the experiments partly conducted by my direction during my absence, were as thorough as in the year before, I shall be able to furnish a few seeds of each one of more than thirty distinct varieties of squash, all grown together on a small patch of ground without admixture!

I accomplished this result very easily. When I found a pistillate blossom about to open, I covered it with a lace bag; I caused it to "take the veil," for the same reason that a young damsel is sometimes persuaded to do the same thing, to save the budding life in all its freshness from the contamination of the world. In due time, or early the next morning, I brought the pollen from a staminate blossom of the same vine, similarly covered the day before, on a camel's hair brush or a soft feather, to the pistil, and then replaced the lace bag. And when the pistillate flower closed, as it did during the day, the work was considered complete, the bag was taken off, to be used again on another blossom, and a numbered stake fixed in the ground by the side of the young squash kept the necessary record.

Some persons will say that such experiments will require too much time and trouble. My first answer to such a statement would be, that he who counts his time and trouble so much above fidelity to a great science, which blesses the world continually even in unscientific hands, is not the person for whom these words were prepared!

Again, the results are richly worth the pains. And our enterprise and thrift are never slow in investments of toil when the recompense is likely to be sure and speedy. But, trouble or no trouble, thus alone, or in some similar manner, can we keep the races of vegetable life from running out; or from losing the very properties which, at present, may disincline the careless to diligence.

The trouble, however, in such matters is always likely to be over-estimated. It is necessarily limited to the brief blooming season, will not require an hour's time a day during that period, and may be readily borne by an intelligent child of twelve years!

Now suppose, for instance, a person to adopt the principle that his seed-drawer is to be replenished every year by positive care. Then his earliest radish, lettuce, peas, beans and corn will be saved accordingly. If, among these, he may happen to have one of more value than another, he can use especial care to secure it from hybridizing. A single tomato, chosen for its good qualities, among which will be reckoned earliness, of course, will plant his own and his neighbor's gardens. A single cucumber, the first good one, artificially fertilized as already directed, will furnish all the seed he will want of that kind. A single squash, or, at most, two squashes of each variety, may also in like manner be secured for seed; and the same may be done for each kind of melon. After these specimens, as it were, of his crop have been looked after, he will have no occasion to do more than wait for their maturity; and the rest of his crop may be hybridized as much as the bees may choose, for he will have no occasion to take notice of anything but the pulp, or shell, which, as every one knows, only serves as the *matrix* of the seed.

If he have a disposition to do more in this direction, a little additional careful manipulation may furnish him with the means of trying some interesting experiments in fruit-growing. He can envelop a cluster of blossoms on his favorite apple, pear, or peach tree, and, after giving the fruits thus carefully preserved from possible hybridization a full share of the tree's vigor, he may sow the genuine seeds thus produced

with an expectation amounting to assurance that such waiting on nature will not fail of its full reward.

But seed-raising has become a business in the community; and shall not that be conformed to these principles? "Where can I buy good seeds, sure to come true to their names?" is a question oftener asked than answered every spring. And this is without any impeachment of the seedsman's integrity. Because seeds are raised by Shakers, or by any honest people who are not Shakers, will not keep the bees from hybridizing them. The difficulty of keeping the varieties distinct and pure, increases every year by the introduction of new varieties, hybrids of former ones. Against this tendency there is nothing but extra care, guided by a skilful adherence to some secure methods of procedure, which will prevail.

Mr. Editor—I believe I have suitably answered the three questions originally proposed, 1. as to the advantage; 2. as to the feasibility, and, 3. as to the methods of the "improvement and preservation of species."

The subject is intensely interesting to those who will examine it; and I know of no field of inquiry and experiment more likely to prove valuable to the cause of true horticulture. It scarcely need be added, that scientific hybridization is dependent upon somewhat similar methods, and upon equal care and pains. In conclusion, I would express the hope that some of your readers will practically test, for their own gratification, and for the cause, the hints here dropped; and from such experiments we may possibly derive the double advantage of a better appreciation of the beauty and precision of the processes of nature, and of greater acquisitions among the products of human toil expended upon the teeming earth.

Our correspondent has most ably treated this important subject, and has certainly well answered the propositions which he advanced in his first paper. Of the "advantages" and "feasibility" of improvement in our vegetables and fruits, no one can have any doubt; but the methods of accomplishing this have not often been so familiarly discussed, nor have been generally supposed so simple.—Ed.

OUR ORNAMENTAL TREES.

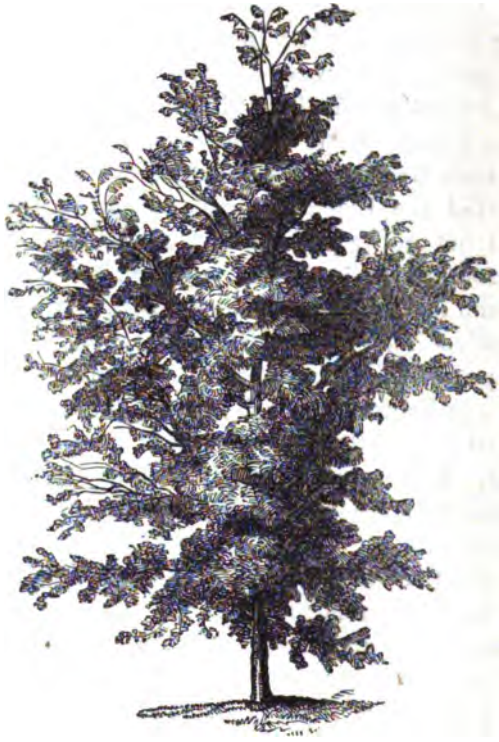
BY THE EDITOR.

3. The Nettle Tree. (Celtis occidentalis, L.)

The Nettle tree, though a native of Massachusetts, and found by Mr. Emerson in nearly every county in the State, is yet one of the least known of our ornamental trees. An amateur lover of trees, residing not many miles from Boston, has a fine specimen growing in his grounds, but none of his neighbors, even those familiar with trees, could give him its name! In Illinois, where it is more abundant, it was called by the French *Bois inconneau*, or unknown wood. Michaux, who observed the Liquidamber as far north as Portsmouth, N. H., did not notice the Celtis north of the Connecticut. Mr. Emerson had it pointed out to him at Savin Hill by Dr. Bigelow, and in Dorchester by the late Dr. Harris. We have never ourselves seen a specimen, in our rambles through the woods in part of Middlesex County, though no doubt it may be found. In Bristol County it is most abundant. Michaux remarks that it is scattered singly throughout the forests of the county. Hence undoubtedly its rarity, for if found in groups like oaks and maples, it could not fail to be familiar to many individuals.

The Nettle tree (fig. 10) bears a strong resemblance to the Elm, and has in consequence obtained the name of *False Elm*, from which circumstance it has probably been taken for that tree when seen in the forests. It has something of the same habit, or at least of many of the species of the former, which vary exceedingly in growth. The Nettle tree does not send up so tall a stem as the elm, but its branches have something of its drooping character, though in a less degree, inclining to spread horizontally. Its usual height, in good soils and favorable situations, according to Michaux, is sixty or seventy feet, and eighteen or twenty inches in diameter; but this was on the banks of the Savannah: in the colder regions and poorer soils of New England, it does not rise more than forty or fifty feet. It branches very low, and

its branchlets are rather slender. The leaves are alternate, from one and a half to three inches long, and from one to two broad: they are of a dark green color, oval-oblique at the base, and sharply pointed, finely serrated, and somewhat rough: they are borne on rather slender footstalks. In the autumn the leaves, which hang on late, assume a bright yel-



10. THE NETTLE TREE.

low tint, and fall from the tree nearly at the same time. The bark is of a pale gray, smooth on the young branches and rough on the old wood.

The flowers are small, white, and single, opening early in the spring, and are borne on long footstalks at the axils of the leaves,—on the upper part of the branches one at the axil, and, on the lower, three; they have a calyx of five or six

divisions, with five or six stamens. The lower flowers have, generally, stamens only, and are barren. The upper flowers are succeeded by a fruit, about the size of a wild cherry, of a brown or brownish purple color, slightly fleshy, very sweet, containing a large stone. Mr. Emerson states that the tree "might be described to one, who wished to be able to recognize it, as an elm, bearing purple,(?) sweet cherries, which continued on the stem through the winter."

The Celtis prefers a cool and shady situation, and a deep fertile soil. In such a locality it attains its amplest dimensions, and forms a most beautiful tree. Like the maple and elm, however, it will accommodate itself to less propitious circumstances, but its branches are more dense, and the whole tree more compact and stiff in appearance. Its growth is not very rapid, being, upon an average, about a foot a year. Numerous specimens are mentioned by Loudon as growing in the vicinity of London, and the average height, at the age of ten years, was about twelve feet. Probably in our warmer summers its growth would be somewhat more rapid. Young trees in our grounds appear to grow about as fast as the Rock maple.

It is propagated by seeds and by layers, the best mode being by seeds when they can be procured. They should be planted in the autumn as with other seeds, in good prepared ground, and have the same culture after the plants are up,—transplanting them the second year into the nursery rows. When raised from layers they should not be detached from the parent tree until the second year.

As an ornamental tree, for lawns or pleasure grounds, the Celtis holds the highest rank. The slight droop of its slender branches, the deep green of its summer foliage, the lively aspect of its gay yellow leaves in autumn, and the abundance of its spray in winter, covered with its numerous berries, render it a peculiarly attractive tree at all seasons of the year. Let it henceforth claim that attention from every lover of our indigenous trees which its combined merits demand.

FLORICULTURAL AND BOTANICAL NOTICES.

ODIER'S NEW GERANIUMS.—This is the name given to a new class of *fancy* geraniums, raised by M. Odier, near Paris. They have acquired a great reputation among the French florists, and in their present improved state are pronounced the most beautiful productions ever seen. The colored representations of many of them, which have been sent to us, certainly appear to corroborate this opinion, and we only desire now to see the actual blooms themselves to acknowledge their superiority over all others—if their beauty has not been exaggerated. These geraniums of Odier are hybrids of the old diadematum, and now number some twenty or thirty varieties, which have been raised within three or four years. At the grand exhibition in Paris, last July, some of his later seedlings were pronounced the most attractive objects ever seen.

We shall soon have a dozen or more of these geraniums in flower, and when we have examined them we shall be able more fully to speak of their merits.

GLOXINIA WILSONI.—One of the most beautiful of the numerous variety of gloxinias, now so extensive, is the G. Wilsoni. In size, the flower excels any that we have seen; it is of the purest white, with the richest and deepest carmine throat, forming the most exquisite contrast of coloring. The habit is exceedingly robust, with a bright green foliage covered with the softest pubescence; and its large flowers are displayed in the utmost profusion. A well grown specimen is one of the greatest acquisitions to any collection.

THE ACHIMENES AND ITS ALLIES.—The continental botanists have recently divided the old group of achimenes into some half a dozen or more genera, restoring the old name of Trevirana to the original type, and making new genera as follows:—

Heppiélla, Isolòma, Mandiròla, Plectopòma, Scheèr*ia*, and Tydæa.

The Mandirolas and Tydæas embrace the most showy plants, but all the genera hybridize so readily that it will soon

be difficult to designate to which group they belong. Achimenes chirita is the type of Scheèr*ia*; A. gloxinæflòra, of Plectopòma; A. Decaisnes*iàna*, of Isolòma; and A. gigántea, of Tydæa.

The new sorts are Mandiròla lanàta and Roélz*ii*, Tydæa élegans and Warsewicz*ii*, and Treviràna Ambrose Verschaffelt, Edmond Boissiere, Doctor Hopf, Edouard Otto, Hendersòni, C. Bouche, and Christian Deegen.

300. Eremu'rus specta'bilis *Biel.* Showy Eremurus. (Asphodeleæ.) Siberia.

A hardy herbaceous plant; growing two feet high; with yellowish flowers; appearing in June; increased by division of the root; grown in rich light soil. Bot. Mag., 1855, pl. 4670.

"A really handsome, hardy, asphodelaceous plant," from Altaic Siberia. The leaves are all radical, six inches to a foot long, and one to two inches wide, glaucous green, somewhat channelled. From its thick, fleshy root the scapes or flowering stems are thrown up from two to four feet long, terminated with a very dense raceme of erect, yellowish flowers, heightened by a profusion of bright, orange-colored anthers. As there is little doubt of its hardiness in our climate, coming as it does from Siberia, it will be a most valuable addition to our gardens. (*Bot. Mag.*, Oct.)

301. Achi'menes hetero'phylla *De Cand.* Various-leaved Achimenes. (Gesneraceæ.) Mexico.

A stove plant; growing two feet high; with scarlet flowers; appearing in summer; increased by tubers; grown in light peaty soil. Bot. Mag. 1855, pl. 4671.

A new and pretty species, known in some European collections as the A. Ghiesbréchtii, and most nearly allied to ignéscens, its principal difference being the inequality in the size of the leaves. The flowers are tubular, and of a deep scarlet. (*Bot. Mag.*, Oct.)

302. Helia'nthemum tubera'ria *Mill. Dic.* Truffle Rock Rose. (Cistàceæ.) Italy.

A greenhouse plant; growing one foot high; with yellow flowers; appearing in summer; increased by cuttings; grown in light rich soil Bot. Mag., 1855, pl. 4673.

"The largest flowered of all the species of Helianthemum, resembling, in its blossoms, a yellow rose." Few of this

extensive family are grown in our collections; but they form beautiful flowering plants, and, with their large single blossoms, are exceedingly showy and deserving of attention; the present is a very fine species, with bright yellow flowers, produced in large panicles, on erect stems a foot or more high. (*Bot. Mag.*, Oct.)

303. SA'LVIA CARDUA'CEA *Benth.* THISTLE-LEAVED SAGE. (Labiateæ.) California.

A half hardy plant; growing two feet high; with pale-purple flowers; appearing in summer; increased by cuttings; grown in light rich soil. Bot. Mag., 1855, p!. 4874.

One of the most remarkable and distinct of the 407 species of sage already known, originally found by Douglas in California, but now first introduced to England by Mr. Lobb. It is a perennial, growing from one to two feet high, erect, with a four-angled stem, very woolly, and branching at the base, with terminal heads of flowers which are beautifully fringed, of a pale-purple color, with deep orange-colored anthers, and each flower is subtended by bracts and floral leaves. It proves hardy in England; with us it would probably need the same treatment as the S. pàtens, and should find a place in every collection. (*Bot. Mag.*, Oct.)

304. SA'LVIA ASPERA'TA *Falconer.* ROUGH-LEAVED SAGE. (Labiateæ.) Cashmere.

A hardy or half hardy plant; growing two feet high; with white flowers; appearing in summer; increased by cuttings; grown in rich soil. Bot. Mag., 1855, pl. 4894.

A rather coarse but interesting species of Salvia, with large, villous foliage, and stems two feet high, four-sided, hairy, and pubescent, terminated in very long spikes of nearly sessile, greenish white flowers. It was raised from seeds received from Cashmere, and the plant flowered in the open border at Kew, last summer. (*Bot. Mag.*, Nov.)

305. RHODODE'NDRON KE'YSII *Nuttall.* MR. KEYS'S RHODODENDRON. (Ericàceæ.) Bootan.

A half hardy shrub; growing four feet high; with pink flowers; appearing in spring; increased by layers; grown in heath soil. Bot. Mag., 1855, pl. 4875.

"A very remarkable Rhododendron, found in Bootan, at an elevation of 9000 to 10,000 feet, amid snows two to three

feet deep," and communicated by Mr. Nuttall, who calls it *R.* Keysii. The tubular form of the corolla is so unlike that of any of the genus that he suggests it should constitute a subgenus, under the name of Kèysia, which Dr. Hooker has adopted. The flowers are borne on short axillary racemes coming out of the old wood, having more the appearance of some of the large-flowered heaths. In England it has stood out all winter; but in our climate it would only need the protection of a frame. (*Bot. Mag.*, Oct.)

306. Gi'lia dianthoi'des *End.* Pink-like Gilia. (Polemoniàceæ.) California.

An annual; growing six inches high; raised from seeds. Bot. Mag., 1855, pl. 4576.

A beautiful little annual, similar in its flowers to other Gilias, but better adapted to bedding out, where it becomes "a closely ramified and spreading plant, the filiform branches and small linear leaves completely covered and concealed by the numerous blossoms, of the most delicate lilac color, each having five dark blood-colored spots surrounding an orange-colored eye in the centre." It is easily grown, and continues in bloom a long time. (*Bot. Mag.*, Oct.)

307. Campa'nula primuleflo'ra *Bot. Fl. Lusit.* Primrose-leaved Bell Flower. (Campanulàceæ.) Portugal.

A half hardy perennial; growing two feet high; with bluish purple flowers; appearing in summer; increased by division of the root; grown in light rich soil. Bot. Mag. 1835, pl. 4879.

A distinct and well defined species of the fine Campanulas, recently introduced from Portugal, where it is probably very rare, to have been so long overlooked. It grows erect, two to three feet high, in the manner of pyramidalis, and the stem is loaded with large axillary flowers, one or more together, becoming smaller towards the top. It flowers in July and August. As a half-hardy plant it will be a welcome addition to this showy tribe. (*Bot. Mag.*, Oct.)

REVIEWS.

A Complete Manual for the Cultivation of the Strawberry, with a description of the best varieties; also, notices of the Raspberry, Blackberry, Cranberry, Currant, Gooseberry and Grape; with Directions for their Cultivation, and the selection of the best varieties. 3d Revised Edition. By R. G. PARDEE. 1 vol., 12mo. pp. 157. C. M. Saxton & Co. New York. 1856.

THIS is a new and revised edition of this little manual, which has been before the public three or four years, and well supplies a place much needed by those in want of elementary information upon the growth of the fruits of which it treats. The author has made many alterations, and some additions, bringing it down to the present time.

We have little to add to our previous notice of the volume. We only regret that the author has not revised his list of strawberries to correspond with their present standing; availing himself of the two years' experience, which had proved the inferiority of some that he classed high. To place McAvoy's Superior first, and admit McAvoy's Extra Red at all, is to mislead the public in the selection of suitable varieties for their gardens.

We trust that Mr. Pardee, should the public call for another edition, will render his Manual free from any such errors. Saving these defects, the work will be found a useful companion to all cultivators of the smaller fruits.

The American Grape Growers' Guide, intended specially for the American Climate, &c. By WILLIAM CHORLTON. 1 vol., 12mo. pp. 171. C. M. Saxton & Co. New York. 1856.

The progress of the grape culture, which we have already referred to on another page, is best evinced by the call for a new edition of Mr. Chorlton's practical volume, now some-

what enlarged and revised. It is a desirable guide to the young grape grower, and should find a place in every amateur's library.

A Complete Manual for the Cultivation of the Cranberry, with a description of the best varieties. By B. EASTMAN. 1 small vol., 12mo. pp. 120. C. M. Saxton & Co. New York. 1856.

The culture of the cranberry is attracting much attention, and well deserves to, for it is a most valuable fruit. Mr. Eastman has well executed his task in the present volume, which we commend to all who would wish to see our markets more abundantly supplied with this wholesome fruit.

The Farmer's Light-House. Chemistry applied to Agriculture, the only profitable mode of tilling the soil. By J. E. KENT, A. M., M. D. 1 small vol., pp. 108. Boston. 1856.

Under another title this small volume first appeared two years ago. It briefly explains all the processes of chemistry applied to agriculture, and in so plain and simple a manner that every one who reads may understand it. Every farmer should place a copy in the hands of his children.

First Report of the Noxious, Beneficial, and other Insects of the State of New York, made to the N. Y. State Agricultural Society. By A. M. FITCH, M. D. 1 vol. 8vo., pp. 180. Albany. 1856.

This valuable work we had laid by for an extended notice, and we intend, at the first opportunity, to fulfil our intentions; at present, we have only time to say, it is a most important contribution to the popular Entomology of the country, and forms a fitting companion to Dr. Harris's able report, both of which should be in the hands of every cultivator. It is published pursuant to an appropriation by the N. Y. Legislature.

Monthly Gossip.

THE AMERICAN POMOLOGICAL SOCIETY—SIXTH SESSION.—The next biennial meeting of this National Association will be held in Rochester, N. Y., on Wednesday, the 24th of September next.

It has not been without some labor that the President and Executive Committee have decided upon the time above fixed. In consequence of the great number of exhibitions of influential agricultural and horticultural societies, which are to be holden the last of September and beginning of October, it was impossible to arrange the time to suit the convenience of all; and, after consultation with various societies and individuals, the 24th of September was thought that which would best meet the wishes of the greatest number of members. The first week in October would conflict with the Exhibition of the N. Y. State Agricultural Society; the second week, with the National Agricultural Society, at Philadelphia; and although the time appointed interferes with the Exhibition of the Ohio State Agricultural Society, if that association cannot attend the meeting, we trust it will not prevent our Western friends from being present, meeting for the first time, as the Society does, half way, for the especial accommodation of pomologists, both East and West. The President, Col. Wilder, has issued a circular, calling the meeting, only a portion of which we can find space to insert:—

"In conformity with a resolution passed at the last meeting of this National Association, the Sixth Session will be held in Corinthian Hall, in the city of Rochester, N. Y., commencing on Wednesday, the twenty-fourth day of September next, at 10 o'clock, A. M., and will continue several days.

All Pomological, Horticultural, Agricultural, and other kindred associations of the United States, and of the British Provinces, are requested to send such number of delegates as they may deem expedient; and nurserymen, and all other persons interested in the cultivation of fruit, are invited to be present, and to participate in the deliberations of the Convention.

Packages of fruits and communications may be addressed as follows: 'For the American Pomological Society, care of W. A. REYNOLDS, Esq., Chairman Committee of Arrangements, Rochester, N. Y.'

Delegations will please forward certificates of their appointment, either to the above, or to MARSHALL P. WILDER, Boston."

THE WHET-SAW BIRD.—Mr. Editor, I noticed in the last number of your Magazine of Horticulture, p. 143, an inquiry from a correspondent, who wishes to know if any one can give him certain information concerning the bird called the Saw-Whetter, and tell him whether it be identical with the Evening Grosbeak. In answer, I would say, the singular note of the Whet-Saw does not proceed from the throat of the beautiful Evening Grosbeak, but from the lively grotesque little fellow, well known as the Acadian Owl! This peculiar note, that strikes upon the ear like the filing of a mill saw, is not uttered when its angry passions are aroused, but is produced by

the pleasurable sensations of the male bird. It is indeed his tender love song, expressing his affection and attachment to his mate, who is patiently sitting on four round white eggs in a hollow tree near by. The Acadian Owl has another note, which we frequently hear in autumn, after the breeding season is over. The parent birds, then accompanied by their young, while hunting their prey during a bright moonlight night, produce a peculiar note resembling a suppressed moan or low whistle. The account given by Capt. Carver, in 1766, and generally supposed to be true, until recently, is as follows: "The Whet-Saw is of the Cuckoo kind, being, like that, a solitary bird, and scarcely ever seen. In the summer months it is heard in the groves, when it makes a noise like the filing of a saw, from which circumstance it has received its name." The identity of this bird with the Acadian Owl has not, to my knowledge, been detected by any ornithologist, with the exception of Mr. Audubon. The little Acadian, to avoid the constant annoyance of all the birds he meets by day, and blinded by the light of the sun, retires in the morning, his feathers wet with dew, and rumpled with the hard struggles he has encountered in securing his prey, to the gloom of the forest or thick swamp, where, perched near the trunk of a tree, he sleeps and snores through a summer's day, a perfect picture of a used-up little fellow, suffering from the sad effects of a night's debauch. But such is *not* the case, for he is an honest bird, notwithstanding his late hours and idle sleepy days. He is also moderate in his appetites, and never indulging in any habits, except those given him by the Allwise Giver. He is, moreover, domestic in his tastes, and the father of an interesting family close at hand in a hollow white-birch, and is ever ready to give them his support and protection. Having thus brought forward the Acadian Owl to the notice of your correspondent, who had supposed, judging from its note, that it was an undiscovered species of the Grosbeak, he will be pleased to place him on his list of *singing birds*, say just below the Whippoorwill. Had we time and space we should like here to say something in regard to the Grosbeaks, as a great deal of confusion appears to exist in this genus of birds. Our love for birds will not permit us to close this communication without speaking a good word in favor of our little owl. And we do it the more readily because he is not mischievous in his habits, as some of his cousins are supposed to be, of a larger growth. The great numbers of mice and large nocturnal insects he destroys, should insure him protection from the farmer and horticulturist.—S. P. Fowler, *Danversport, March* 18, 1856.

Kalmia glauca.—I left Massachusetts when quite young, but I recollect an evergreen shrub, quite common in the swamps in Worcester County: it is a very straggling growing shrub, with dark green leaves, something like the rhododendron, with pale pink flowers, I think, in May. I have been long anxious to obtain some of the same, as I think they would prove hardy here. Should you know the shrub, will you inform me, through the columns of the Magazine, of its name, and if for sale in any of the nurseries.—*Respectfully your obedient servant*, L. Fairbanks, *Whitby, C. W., 29th Feb.*, 1856.

The shrub which our correspondent refers to is the Kálmia glaùca: one could hardly fail to recollect so beautiful a plant. It would no doubt thrive well in Canada West, and would certainly add to the beauty of any garden. No doubt most of our nurserymen have it for sale. Messrs. Hovey & Co. have a stock of many hundred beautiful plants, mostly raised from seed or imported seedlings.—Ed.

Grafting Hickories and White Pine Seeds.—Will you not favor us with a little gossip in your next number about grafting hickories? I have been unsuccessful by any of the common modes for several years. What is the best treatment of white pine and Deodar cedar seeds two years old and dry to ensure their growth?—*Yours, respectfully*, James Weed, *Muscatine, Iowa, Feb.*, 1856.

We can give but little information in regard to the grafting of hickories, in addition to what has already appeared in a previous volume, (XX., pp. 78 and 460,) where two methods are detailed of grafting the English walnut, which will apply with equal force to the hickory, and we must refer our correspondent to that volume. We recently read some account of grafting the hickory successfully by using the two-year old wood, but we do not at this moment recollect the authority. It would be an experiment worth trying. The French, who are skilful in propagation and adopt various methods of grafting, according to the habits and character of the trees, recommend the walnut to be propagated by "tubular budding," as described in our volume for 1854, (XX., p. 391). It is a nice operation, but is usually successful with the walnut, hickory, &c.

White pine and Deodar seeds, two years old, are apt to lose their vitality if taken out of the cones. They do not, however, require any other preparation than to sow in boxes in the greenhouse or in a frame in the open ground, and treating them as fresh seed. Soaking with water is more likely to be injurious than beneficial. We have found the seeds of some kinds of pines to vegetate well the second year, but most of them fail, particularly the Deodar. In the cones the seeds remain fresh two to four years.—Ed.

Horticultural Operations

FOR APRIL.

FRUIT DEPARTMENT.

Cold, chilly winter still "lingers in the lap of spring." The month of March, though remarkably pleasant and unusually free from storms and cutting winds, has yet been a cool month, with only one night in which the thermometer did not fall below the freezing point. The average temperature, however, notwithstanding the zero night of the 10th, has been warmer than the March of 1855, which was exceedingly blustering and characteristic of this variable month. Great quantities of snow still cover the ground, in

some parts of the country averaging a foot or more in depth; but in the absence of frost in the soil, the fine clear sky and bright sun have melted it away, and nothing is wanted but a genial rain to cause it to rapidly disappear. No rain has fallen since the month of December last. Undoubtedly our "April showers" will be "copious rains" this season.

Grape Vines.—No finer or more favorable weather could have been desired for forcing than the last month. An almost unclouded sky has prevailed, with an abundance of sun heat, and this is all the grape grower can wish at this season. The earliest vines will now be coloring their fruit, and as the weather will now admit, air should be liberally given. Discontinue any damping of the house; keep the laterals stopped, according to their vigor. Vines in greenhouses will now be setting their fruit, and will need to have a little warmer temperature for a short time; attend to thinning out in good season. Maintain a moist and genial atmosphere, suiting it to both plants and grapes, and stop all laterals rather short so as not to shade the plants. Cold graperies will now require care; syringe the vines, to cause them to break evenly, and tie them up to the trellis in good season. Close the house early, and do not keep too high a temperature during the day. Attend to the grape borders; rake off the coarse litter and fork the surface, that it may admit the warmth of the sun's rays, and receive the genial showers of April.

Strawberry Beds should now be uncovered, and as soon as the ground is dry and in good order, the surface manured and slightly dug between the rows. The latter part of the month is a good time to make new beds.

Raspberries should be uncovered, the vines pruned of the slender wood, and tied to stakes; manure and dig the ground early, and make new plantations.

Blackberries should be headed in, leaving only good stout canes five or six feet long.

Currants and Gooseberries should be pruned early.

Grafting should be commenced at once, beginning always with the cherries. Root grafts should now be set out in nursery rows.

Fruit Trees of all kinds may be planted, pruned, &c. Wash the stems with whale oil soap to keep the bark healthy and clean.

The Canker Worm grub will now begin to run, and the trees should be kept constantly tarred.

FLOWER DEPARTMENT.

The busy month is upon us, and the gardener who is not prepared for it, so far as he could possibly do so, will be constantly worried and pushed till the planting season is over,—that is, if he is ambitious to have everything under his charge in the best condition. There is enough to do in every department, but with a little system all may be accomplished. Begin every operation in time and complete it before commencing another. The out-door and in-door departments alike require attention. In the former, ground must be prepared, plants set out, seeds sown; and, in the latter, repotting must be kept up, propagation still go on, and preparations made for

removing many things to the open ground, all requiring great attention, industry and care.

Pelargoniums will be prominent objects, and the earliest plants will begin to bloom, enriching the conservatory as few others, at any season of the year, can; keep the plants in good order by careful watering, and shade slightly during the hot sun to preserve their bloom.

Azaleas, done flowering, should be more liberally watered; straggling, ill-shaped plants should be headed in. They bear the knife well.

Camellias will be making their growth: syringe freely over the foliage and water liberally at the roots.

Fuchsias will need attention; repot as soon as the plants require it, and keep them in a vigorous growing order, as any check greatly diminishes the beauty of the plants.

Gloxinias and Achimenes, as the season advances, will come forward rapidly, and will begin to flower; repot such as need it, and place them in the warmest and most shaded part of the house. Keep the achimenes tied up to stakes.

Calceolarias and Cinerarias, of late sowing, may be repotted.

Roses, in small pots, should have a shift into a larger size and be removed to a cool frame, where they will become hardened off for planting in the open borders.

Seeds of all kinds of annuals sown last month will now have made such progress that the young plants may be put into boxes or cold frames preparatory to a removal to the borders.

Bedding Plants of all sorts should now be hardened off in cold frames.

Japan Lilies will need another shift into larger pots.

FLOWER GARDEN AND SHRUBBERY.

The lawn and flower garden will now require much attention. Clean, rake and roll the former, as well as the walks, as soon as they are dry enough. Dig the shrubbery, and prepare ground in the flower garden.

Tulips, Hyacinths, Lilies, and other bulbs, will appear above ground, and the covering should be removed early, or a large portion of it, leaving a little to protect them from frosty nights.

Peonies should be reset this month, the earlier the better.

Herbaceous Plants should be divided and reset.

Hollyhocks should be uncovered and the beds dug and manured.

Carnations and Picotees, in frames, should be set out in the flowering beds this month.

Daisies, in frames, should be slightly protected on cool nights.

Annual Flowering Seeds, of the hardy kinds, may be sown in neatly prepared beds for removal later in the season.

Gladiolus, and other summer bulbs, may be set out the last of the month.

If the weather is not frosty and cool, all kinds of shrubs, plants, &c., may be transplanted during April. Tender things should have the protection of the hotbed.

A FEW HINTS ABOUT EVERGREEN TREES.

In our cold and bleak climate, where, for six months out of twelve, frost and snow hold undisputed sway, varied only by occasional storms of sleet or chilly rains, it is indispensable to the comfort and enjoyment of every rural or suburban residence, as well as the protection of every fruit or flower garden, that they should be well provided with plantations of evergreen trees. Not only will they afford shelter and warmth at the inclement season of the year, but will render the heat of summer less oppressive and unequal. But beyond these uses, which are in themselves sufficient to insure their general introduction, they have a prospective value which is too often overlooked. They not only improve the rural aspect of the country, but they enhance the market value of all landed property, and in an economical point of view, without reference to ornamental purposes, deserve to be far more extensively planted than they have heretofore been. Those who can see no use or beauty in fine evergreen trees, as mere ornamental objects, must at least admit that they give additional value to every situation, wherever they form even a remote feature of the landscape. If their cultivation cannot be extended so rapidly as we could wish, by appeals to the taste of the possessors of lands, they may be induced to plant, provided it can be shown that those who have them to dispose of will find it to their advantage that they should be judiciously covered with a vigorous growth of evergreen as well as deciduous trees.

But we have not space to enter into all the arguments which might be adduced in favor of ornamental plantations, either for picturesque effect, or for enhancing the value of property. These we must leave till a more leisure opportunity. The latter subject, however, is one of much importance, and one which we hope may more deeply engage attention. Did the owners of extensive lands but know how

much even a few fine trees increase their value, they would never neglect to plant, if for no other view than a pecuniary result.

Our object now is one of practical interest; to offer some few hints in reference to planting evergreens, that greater success may attend the efforts of all those who wish to improve their grounds for mere ornamental effect alone. The great losses which too often attend the labors of those who plant is the cause of much disappointment, and to remove any obstacles in the way of satisfactory results, is the intention of our present remarks.

By common consent, the spring appears to be the season generally chosen for transplanting evergreen trees. In our last volume we discussed the correctness of this custom, and we have yet to learn that it is founded on sound theory. But, admitting it to be correct, and that April and May are, on the whole, certainly as safe months to plant as any in the year, what those, at least, who are inexperienced would be glad to know is, how best to perform the operation of transplanting so as to secure the greatest success. We shall briefly give some advice how to proceed.

The scarcity of fine evergreen trees in our nurseries, heretofore, and the high price demanded for them, compared with those gathered direct from the woods and forests, has induced many individuals to purchase the latter; but the losses which have been sustained with such trees have been so great, that all well-informed planters now consider them almost as worthless, when properly cultivated nursery trees can be procured. A little reflection will convince any one that a tree dug up directly from the forest cannot be in a fit condition to transplant successfully; but as in so many instances they have what are termed balls of earth (i. e. sod) attached to the roots, purchasers are misled, and do not find out their mistake till too late. Such trees, taken *very small*, and very carefully planted, will, in time, what may survive of them, make good trees: but the labor is too great for the amateur to commence with these, and if he wishes for immediate benefit he must purchase well-grown, and well-rooted speci-

mens. An adherence to this practice would save planters a great deal of trouble, expense, and, more than all, that which is of the greatest consequence—loss of time. And, as a general rule, let us advise those who wish to plant in very exposed situations, not to select too large trees. We well know the mania of our countrymen for trees already grown up, not having patience to wait for them. They may do perfectly well in many localities, but when the situation is bleak the safest are those of moderate size, even though they were to cost the same money.

In England, where hundreds of thousands of trees are yearly planted for timber, they fully understand all the operations connected with the transplanting of evergreens. We have recently perused a small practical work upon planting evergreen trees, particularly pines, &c., published by Messrs. Standish and Noble, extensive nurserymen, and so appropriate are their remarks to our own climate, as well as that of England, that we have thought them fully as instructive as any we might offer of our own. The nicety of the operation, as compared with our hasty method of transplanting, shows how much is gained when the work is entrusted to the hands of skilful men. We select the remarks on soil and planting:—

"*Soil.*—Naturally, pines do not affect deep or rich soils: dry mountainous districts are their favorite habitats. Some few species are, however, found to prefer deep and fertile soils, amongst which several of the Abies are conspicuous. In cultivation, a general uniformity of soil is found to be productive of satisfactory results; but in planting large districts, presenting a diversity of soil and situation, a selection of the most suitable species for each will not only be desirable but necessary. For although all, or nearly all, the species will succeed well in a similarity of soil and situation of a favorable character, such, for instance, as would be afforded them in a collection of the different species constituting a Pinetum, there are only certain kinds that could be advantageously employed under adverse circumstances, as on barren hills, or marshy districts, or on the sea coast.

"The situation chosen should, if possible, present a variety of aspect, the surface be varied, the soil a friable loam, and the subsoil dry. If the last most essential condition is not naturally present, it must be induced by art. To be able to make choice of aspect will be of great service in assigning suitable positions to each species; and the varied surface will contribute to produce a picturesque arrangement.

"But it often occurs that persons are desirous of planting ornamental specimens in situations where the natural soil is wholly unfit for the purpose; under such circumstances, each tree will acquire a situation prepared for its reception by removing in part, or wholly, the natural soil, and replacing it with a more suitable compost. For that purpose nothing is preferable to sound loam of an open texture. The surface soil from a rough old pasture, if it can be procured, will be admirably adapted: if it can lie a year or so to decompose its vegetable matter, so much the better. But there are no objections to its being used in a fresh state."

"*Planting.*—Much of the ultimate success of a tree will depend on this apparently simple operation being properly performed. The situation chosen, being in regard to soil of a favorable character, a space of at least ten feet in diameter should be trenched for each tree, breaking up the soil from two feet to thirty inches deep, well chopping it to pieces with the spade, and if the lower soil is at all inferior, keeping the surface mould still at the top. A good portion of leaf-mould should also be incorporated with it, and the whole allowed to settle before planting. Where any plant is likely to require support, place in the centre of the spot to receive it a neat strong stake, leaving it, however, no higher than about two thirds the entire height of the plant. Having carefully disentangled the roots, should they require it, spread them equally over the spot prepared to receive them, with the stem of the plant against the previously fixed stake. Now, with some prepared compost, fill in amongst and over the roots, adding sufficient to raise it as high as the natural "collar" of the plant. If it is spring, and the weather dry, a good watering should be given previously to placing the final covering of earth over the roots, and the whole should be slight-

ly covered to prevent excessive evaporation. Attention will be requisite to prevent the plant suffering from drought.

"If the soil is of a very inferior description, some additional care will be required in preparing for planting; that at least for the immediate reception of each tree should be wholly removed, and to a depth of at least eight or ten inches below where it has been trenched. Such additional depth must be filled with some rough porous material, as stones or broken bricks, to act as drainage to the soil above, and from which a drain must lead to the nearest convenient outlet. And something—a few sods of turf with the grassy side downwards are as good as anything—must be placed above the draining materials, to prevent the soil from being carried down and obstructing its action. And in trenching the entire space, it will be requisite to observe that the bottom gradually declines from the outside, to the drainage in the centre, the better to prevent the accumulation of stagnant moisture, a condition which every means should be taken to obviate. In preparing the situation for the trees, whether in adding new soil or otherwise, allowance must be made for subsidence; that the tree, when all is thoroughly settled, shall stand on a slight elevation, but only a slight one. The practice of planting on high mounds is objectionable on many points. Its supposed advantages can be much better secured by drainage.

"Where the positions for trees are prepared in a soil naturally retentive of moisture, a thorough system of drainage is altogether indispensable. In the absence of such precautionary measures, each spot would become but a receptacle for water, without the means of allowing it to pass off except by evaporation. The new soil would be reduced to the condition of mud, and the progress of the plants wholly prevented, and death, in some form or other, in many instances ensue."

These observations are to the point, and, if carefully followed, will lead to complete success in transplanting evergreen trees. Because pines and firs will grow on a light sandy soil, it does not follow that no pains should be taken

to improve it. The fact once established that all coniferous trees will receive equal benefit with other trees, by liberal manuring, and much finer specimens will be grown in a few years than in twice the same period, on the old starving system.

In addition to the good advice above quoted, we may lay down the following general hints:—

First. Never use fresh manure of any kind, in setting out evergreen trees; unless perfectly and thoroughly decomposed, so as to resemble a rich black mould, it is better to plant without the addition of anything to the natural soil.

Second. If the specimens are large they should be well mulched with leaves or strawy manure, the latter serving at the same time to enrich the soil, and the roots should be well protected the first winter.

Third. Never use the watering pot, only in extreme cases. More trees are lost by the constant soaking of the roots than from almost any other cause. At the time of planting, if the ground is dry, the roots should be well watered before the hole is filled up; after that, in nine cases out of ten, additional watering is injurious.

Norway spruces, firs, and arborvitæs, usually transplant with good balls; but the white, Scotch, and Austrian pines have coarse stringy roots, to which the soil will not adhere: the latter should therefore be more carefully removed than the former, especially if the specimens are large.

The season is now at hand for removing all evergreens, and we trust our remarks may aid in securing more safety in the operation of transplanting.

As a guide to those who are not familiar with all the hardy coniferous trees which flourish in our cold climate, we enumerate the following:—The Norway and White and Black Spruces; the Balsam Fir; the European Silver Fir; the Red Cedar; the White, Scotch, Austrian, and Red Pines, Pinus excelsa, P. pyrenaica, P. cembra, P. mughus, and P. inops; the American, Siberian, Tartarian, Chinese, and Western Arborvitæs; the Chinese, Swedish, and Irish Junipers; the Hemlock, &c., in all about 25 kinds.

THE LITERATURE OF GARDENING.

BY WILSON FLAGG.

No. III. "Analytical Inquiry into the Principles of Taste. By Richard Payne Knight.

This work, which is a general treatise, discusses incidentally, though at considerable length, the principles of Modern Gardening. It controverts Mr. Burke's theories and Mr. Price's illustrations of them, and gave rise to a new volume by Mr. Price, in which the author represents himself and Mr. Knight as holding a dialogue upon the subjects of controversy. In the "Analytical Inquiry," the whole foundation of modern gardening is condemned, and Kent and Brown are ridiculed with perhaps unjust severity. In relation to the errors in the Treatise on the "Sublime and Beautiful," the author remarks that "both Dr. Johnson and Sir Joshua Reynolds, while living in the most familiar intimacy and the strictest friendship with Mr. Burke, entirely rejected, in their writings, the principles which he had endeavored to establish in the "Inquiry into the Sublime and Beautiful." Mr. Knight greatly excels his antagonist, Mr. Price, in metaphysical acumen, though the latter is more eloquent in his descriptive passages; and while Mr. Price seems to adopt all Burke's errors with a foolish idolatry, Mr. Knight, while refuting them, treats them with contemptuous ridicule, and attributes very many of the errors of taste, as well as many of the false modes of reasoning on these subjects, to the influence of Mr. Burke's Essay, which seems indeed to be characterized by its false reasoning more than by any other quality. As a specimen of one of his distinctions without a difference, Mr. Burke says that the sensation caused by music in the ascending scale should be called *pleasure*, while that caused by its descent should be termed *delight!*

The theory of Mr. Burke's, on which Mr. Price grounded almost all his own reasoning is, that the beauty of most objects that come under the denomination of beautiful consists in their "*smoothness*," and this is one of the points which our author aims particularly to controvert. "And time hath

mouldered into beauty many a tower," is one of the few happy expressions to be found in Mr. Mason's "English Garden." According to Mr. Price, however, beauty, even in architecture, implies the freshness of youth, or at least a state of high and perfect preservation; and buildings are mouldered out of beauty into *picturesqueness*. Who (exclaims our author) shall ever understand the English language, if new and uncouth words are thus to deprive those sanctioned by long usage of their authorized and established meaning? All these forms, appearances and combinations which Mr. Price considers picturesque, our author considers beautiful, while the former confines this latter term to objects which are smooth, fresh and young, unwisely limiting its application to a few species of things, as if we were to say that the only beautiful women were those who are light haired, and who have round and smooth faces. Mr. Knight very justly considers the term *picturesque* as applicable to a certain class of beautiful objects, and not as implying qualities opposite to those of beauty. Even *grotesque* objects he admits may be beautiful likewise. The beauty of those whimsical and extravagant paintings, called, from the subterraneous apartments in Rome, where the first specimens of them were found, *grot-tesque*, has, he thinks, never been questioned. The brilliancy and variety of the tints have afforded pleasure to every eye; and the airy lightness and playful elegance of the forms have pleased every imagination. Yet these things are beautiful only in painting; in reality we should be disgusted with them. By this and many other examples he proves that a scene may be beautiful in painting, though it represent an object which is disgusting or offensive in real nature.

This is no place to follow the controversy on this point to its end; the author's opinion seems to be like that of Sir Joshua Reynolds, who maintains that beauty does not consist in any particular forms, lines, or colors, but is merely the result of habitual association, and of our ideas of their fitness to contribute to our pleasures. Hence the productions of the fine arts, continues the author, are never thoroughly enjoyed but by persons whose minds are enriched by a variety of

kindred and corresponding imagery; the extent and compass of which, allowing for different degrees of sensibility and habits of attention, will form the scale of such enjoyment. Of this description are the objects and circumstances called *picturesque;* a word that is now become extremely common and familiar in our tongue, and, like all other foreign words, is very frequently used improperly.

The author speaks of architecture quite at length, in its application both to painting and gardening. One quotation conveys an idea which may be interesting. He says, "At this time, when the taste for gothic architecture has been so generally revived, nothing is more common than to hear professors as well as lovers of the art, expatiating upon the merits of the pure gothic; and greatly endeavoring to separate it from those spurious and adscititious ornaments by which it has been lately debased: but, nevertheless, if we ask what they mean by *pure gothic*, we can receive no satisfactory answer; there are no rules—no proportions—and consequently no definitions; but we are referred to certain models of generally acknowledged excellence. These models are of two kinds, entirely differing from each other; the one called the *castle* and the other the cathedral or monastic; the one having been employed in the fortresses, and the other in the churches and convents of those nations which divided the Roman empire, and erected the states and kingdoms of modern Europe upon its ruins." The author denies that these nations had any architecture as an art reduced to principles; and it is manifest that they either invented, or adopted both these styles of architecture after their settlement in the Roman empire. There is every reason to believe that they adopted certain styles which they found already existing in their conquered country. The overhanging battlements, now called gothic, were certainly known to the Romans as early as the reign of Titus; as there are, among the paintings of Herculaneum, representations of walls and towers completely finished in this way; and it is probable that this fashion continued down to the subversion of the empire, and was then adopted by the conquerors.

The style of architecture, which we call cathedral or monastic gothic, is manifestly a corruption of the sacred architecture of the Greeks and Romans, by a mixture of the Moorish or Saracenic, which is formed out of a combination of the Egyptian, Persian and Hindoo. It may easily be traced through all its variations, from the church of Santa Sophia, at Constantinople, and the Cathedral of Montreale, near Palermo, the one of the sixth, the other of the eighth century, down to King's Chapel, at Cambridge, (Eng.,) the last and most perfect of this kind of buildings. The ornaments of this monastic gothic consist of indiscriminate imitations of almost every kind of plant and animal scattered with licentious profusion, and without any preëstablished rule or general principle; but often with just taste and feeling as to the effect to be produced." The system of regularity of which the moderns have been so tenacious in the plans of their country-houses, *was taken from the sacred and not from the domestic architecture of the ancients.*"

Such were the Greek temples: and these regular structures, being the only monuments of ancient taste and magnificence in architecture that remained, at the resurrection of the arts, in a state sufficiently entire to be perfectly understood, the revivers of the Grecian style copied it servilely from them, and applied it indiscriminately to country as well as to town houses. But as they felt its incongruity with surrounding scenery of unimproved and unperverted nature, they endeavored to make that conform to it, as far as it was within their reach, or under their control. Hence probably arose the Italian style of gardening; though other causes may have coöperated. Since the introduction of the modern style of gardening, called at first the *Oriental style*, and afterwards landscape gardening, probably (adds the author) from its efficacy in destroying all picturesque composition, Grecian temples have been employed as decorations by almost all persons who could afford to indulge their taste in objects so costly; but, though executed in many instances on a scale and manner suitable to the design, disappointment has almost invariably followed. In the rich lawns and shrubberies of Eng-

land they lose all that power to please, which they so eminently possess on the barren hills of Agrigentum and Segesta, or the naked plains of Palestine and Athens.

Speaking of the different kinds of scenery, our author does not think the word *picturesque* applicable to one kind any more than to another, regarding any scene *picturesque* which is adapted to the painter's art. He remarks, that ruined buildings, with fragments of sculptured walls and broken columns, the mouldering remnants of obsolete taste and fallen magnificence, afford pleasure to every learned beholder, wholly independent of their real beauty, or the pleasing impressions which they make on the organs of sight; more especially when discovered in countries of ancient celebrity, renowned in history for learning, arts or empire. The mind is led by the view of them into the most pleasing trains of ideas; and the whole scenery around receives an accessory character, which is commonly called *classical;* as the ideas which it excites are associated with the incidents of classical history.

There is another species of scenery, in which every object is wild, abrupt and fantastic; in which endless intricacies discover, at every turn, something new and unexpected. This sort of scenery we call *romantic*, not only because it is similar to that described in romances, but because it affords the same kind of pleasure as we feel from the relation of romantic incidents.

In other scenes, we are delighted with neat and comfortable cottages, inhabited by a plain and simple, but not rude or vulgar people; placed amid cultivated but not ornamented or dressed grounds. Such scenery, consisting of meads and pastures, abounding in flocks and herds, we call *pastoral.* The pleasure derived from it is greatly enhanced, to a mind conversant with pastoral poetry, by the association of the ideas excited with those previously formed. In all these cases the pleasure excited is dependent on association. Show either picturesque, classical, romantic or pastoral scenery to a person whose mind, however well organized, is wholly unprovided with correspondent ideas, and it will no otherwise affect him

than as beautiful tints, forms or varieties of light and shadow would, seen in any indifferent objects. The author next proceeds to apply these principles to the modern style of gardening; I shall not attempt to follow him in all his observations.

After ridiculing the regular square edifices so common in his day, the author remarks that in the old architectural system of laying out grounds, the house being surrounded by gardens as uniform as itself, and only seen through vistas, at right angles, every visible accompaniment was in unison with it, and the systematic regularity of the whole discernible from every point of sight. But when, according to the modern fashion, all around is levelled and thrown open, and the poor square edifice exposed alone, or with the accompaniment only of its regular wings and portico, amidst spacious lawns interspersed with irregular clumps, or masses of wood and sheets of water, there cannot be a more melancholy sight. It neither associates nor harmonizes with anything: and as the beauties of symmetry, which might appear in its regularity, are only perceived when that regularity is seen, it appears neither quite regular nor quite irregular; but with that sort of lame and defective uniformity, which we see in an animal that has lost a limb.

The view from one of these solitary mansions is still more dismal than that towards it; for at the hall door, a boundless extent of open lawn presents itself in every direction, which the despairing visitant must traverse, before he can get into any change of scenery; and to complete the congruity of the whole, the clumps with which this monotonous tract is dotted, and the winding stream or canal by which it is intersected, are made as neat and determinate as ever the ancient gardens were. The latter were professedly a work of art, and an appendage to the house, and the neatness and even formality of architecture were its proper characteristics. When the terraces and borders were intermixed with vines and flowers, as in some old English gardens, the mixture of splendor, richness and neatness was beautiful and pleasing in the highest degree. But the modern art of *landscape gardening*, as it is

called, takes away all natural enrichment, and adds more of its own; unless, indeed, meagre and formal clumps of trees, and still more formal patches of shrubs, may be called enrichment.

"Why this art," remarks Mr. Knight, "has been called landscape gardening, perhaps he who gave it the title may explain: I can see no reason, unless it be the efficacy which it has shown in destroying landscapes, in which indeed it seems to be infallible, not one complete painter's composition being, I believe, to be found in any of the numerous and many of them beautiful and picturesque spots, which it has visited in different parts of this island."

To those readers who are pleased with bold and original views, and sagacious, metaphysical speculations, there are few works of the kind that will afford more interest than the "Analytical Inquiry," from which we have compiled only those ideas that relate directly or indirectly to landscape gardening.

EUROPEAN PARKS, NO. V.

BY HOWARD DANIELS, ARCHITECT, N. Y.

THE LONDON PARKS.

Hyde Park contains 349 acres of fine, high and undulating land, admirably adapted to landscape gardening purposes, but, instead of being a park in fact, it is nothing but a gigantic cow pasture, with here and there an old decaying or dead elm, or sycamore tree, in which the aristocracy of the neighborhood pasture their cows.

I was so disappointed in this park that it was not until I had found the site of the Exhibition building of 1851 that I could really persuade myself that this was the far-famed Hyde Park about which I had read and heard so much.

There is a long canal-like sheet of water, which is neither natural nor artificial in its character, covering fifty acres of land, called the Serpentine, the upper portion of which is in

Kensington Gardens; the division of the water being effected by a stone bridge, having an iron railing along its centre, the bridge accommodating both the park and gardens. Around the park is a broad drive, parallel with the boundary, from which all but private carriages are excluded; another drive develops the interior, running the north side of the Serpentine. These drives are much used, but do not contain a particle of grace and beauty. The walks are numerous, and are generally in right lines, intersecting each other at all sorts of angles. On the south side of the Serpentine is a road known as Rotten-row, where the fine gravel is always allowed to remain loose, so that horses can gallop over it without the least danger of falling.

This park is a favorite resort of the higher circles, at all seasons, but especially from April to July, and between the hours of five and seven, P. M. It is said to have been thus fashionable for drives and promenades during Charles II.'s reign. It is also said that in the year 1550 the French ambassador hunted with the king in Hyde Park, which was well stocked with game, and kept as a royal enclosure.

The reason of this park being such a favorite resort for the Londoners of all classes, undoubtedly arises from the fact of its being such a large, high, and open piece of land, where the air has a free circulation, unobstructed by trees or other objects; forming, as *they* term it, one of the lungs of London. That I may not be considered as doing injustice to this park, I would mention that there are two or three plantations of small, half-starved maples along the north side, that look as though they had been planted by some nurseryman at so much per dozen, as they are arranged regardless of effect in grouping.

I would also mention that the gate-keepers' lodges each have a small portion of land occupied by dingy, miserable-looking shrubs and flowers, which are the only ones to be found in the whole park. A narrow belt of meagre, half-starved trees, from twenty to fifty feet high, mostly planes, elms and oaks, skirts along the north side. The division between Hyde Park and Kensington Gardens is a ha-ha of large

dimensions, and forms a very ugly feature in the landscape, particularly as viewed from the park. There are a few groups of old trees on the south and west sides.

Hyde Park, celebrated already for many interesting historical events, will henceforth be noted chiefly as having supplied the site for the Exhibition Building of the industry of all nations.

The lesson I learned in Green and Hyde Parks was that of bitter disappointment, for where I expected to find beauties to imitate, I found only deformities and puerilities to be avoided.

KENSINGTON GARDENS.

These gardens include 300 acres more, and are actually a continuation of Hyde Park. Before George II.'s time, indeed, nearly the whole of these gardens were actually included in Hyde Park, Queen Caroline having enclosed them, and formed the Serpentine out of a number of small ponds.

The foundation of these gardens was laid by William III., but, in his reign, they did not occupy more than 26 acres. Queen Anne enlarged them to 56 acres, and had them laid out by her gardener, H. Wise, who afterwards became quite a celebrity in landscape gardening. Addison, in his *Spectator*, seems to have been delighted with those dawnings of the modern natural manner, exhibited by this artist in his treatment of the old Kensington gravel pits, thus converted into a portion of Kensington Gardens.

In the time of George II., however, Queen Caroline extended these gardens to their present size, by taking nearly 300 acres out of Hyde Park, and having the whole laid out by Bridgman. At this period, also, the Serpentine was formed out of a series of ponds; and a large and somewhat circular basin of water was made in the neighborhood of the palace, at the point from whence the principal avenues diverge. Kent was afterwards employed to alter these gardens, and encountered much ridicule by endeavoring to imitate nature so closely as to plant a number of dead trees. More recent times have witnessed comparatively few changes in Kensington Gardens, except that one or two of the broad

walks up the centre of them appear modern, and a number of ornamental shrubs and low trees have been planted along the side of the wall, near the Bayswater road, where I observed many tulip trees, a few liquidambers, and a group of golden yews labelled a seedling variety; while a new walk, bordered with a better class of ornamental plants and adorned with summer flowers, has been made nearly parallel to Rotten-row on the south side, and the old kitchen gardens, behind the palace, have been entirely removed to give place to handsome villas.

Standing near the palace, which is an old brick building without any architectural style whatever, and looking eastward, the leading features of the gardens present themselves, and consist in three principal openings or avenues, the best of which are terminated by Hyde Park, the intermediate and surrounding parts being filled in with dense masses of ancient trees. As the avenues are not sufficiently regular, or contracted, to acquire the dignity of art, and not expanded or broken enough to resemble nature, this scene is by no means impressive, like that at Hampton Court, and none of the vistas are at all happily terminated; but there is a massiveness about the trees, an appearance of age, and a total absence of anything that indicates the proximity of the town, which cannot fail to produce a striking effect on the observer, especially on a summer's day. The view down these avenues from the other side of the gardens, near the Serpentine, is much better, being terminated by Kensington Palace. At various other parts of the gardens these main avenues are crossed at different angles by a number of other avenues or vistas, which possess the great fault peculiar to that style of gardening, namely, that they are not properly connected with each other by any appropriate or necessary link, and that they have no sufficiently definite object. It cannot be too strongly urged that large, straight walks will only be effective when they are obviously parts of some regular and symmetrical design, or conduct to some object important enough to justify their employment. One of the broad walks in these gardens is, however, very fine in itself; it has a row of excellent elms

on each side, and is finished by a large rustic summer-house at the Bayswater end. An elegant church spire also forms a conspicuous object behind the summer-house.

Of individual features, if we enter the gardens near the bridge over the Serpentine and keep on the east side of the water, some noble old Spanish chestnut trees, which are well worthy of notice, will be found on the right, just within the gates. From this point to the head of the Serpentine, the walk beneath the fine old trees, with glimpses of the water and of the lawn and trees on the opposite bank, is one of the best parts of the gardens, the trees being more mature and more picturesquely disposed, and the ground less flat and tame, and the whole scene forming better and more varied combinations than will be found anywhere else throughout the gardens. The new masses of shrubs on the western margin of the Serpentine, overrun with common laurel to an extent which almost conceals the rhododendrons, of which they appear destined ultimately to be composed, are nearly the only deformities in this portion of the gardens.

After rounding the head of the water, the border of rarer plants, including a great number of good thorns, is seen on the right, and continues for some distance along the Uxbridge road. The greater part of these plants are well labelled. On the left, a kind of wilderness stretches far and wide, composed of tall trees alone, with no shrubs or undergrowth, but carpeted with grass, over any part of which the visitor may walk as he pleases, and none but pedestrians are allowed in these gardens. Nothing could be better adapted than all this park for a pleasant stroll in hot weather; although variety, or any artistic arrangement, is by no means to be found here.

A little distance from the Serpentine, along by the northern boundary of the gardens, is a large mass of Scotch firs, some of which are interesting and picturesque, and their existence in this place forms a pleasant change from the comparatively monotonous foliage of deciduous trees. Considerably further on, and near the western boundary, there is a great number of evergreens of large size, being chiefly hollies, cedars of Lebanon, and yews, often thrown together in groups of

greater or lesser dimensions. From this quarter, too, the new villas, on the road formed after the destruction of the kitchen gardens, come into view. They are principally Italian, and are elegant and artistic. Advancing towards the palace, the stately old orangery, which is not now used for plants, claims a passing glance, being one of the finest specimens of its class.

Immediately in front of the palace is a small flower garden, of quaint design, and enclosed with a low iron railing; while between this and Kensington there are some rows of capital old elm trees, which are here very rich and fine. At the bottom of one of the short avenues which they compose, is a lofty architectural alcove, of the reign of Queen Anne.

The demand, indeed, for evergreens and undergrowth in these gardens is most urgent; and if there exists a well-founded objection to the use of shrubs and bushes in tufts, or as single plants, there certainly can be no reason why solitary specimens or varied groups of the many kinds of thorns, pyrus, mespilus, laburnum, pine and fir, evergreen oaks, hollies, yews, &c., should not be most extensively planted, and a large proportion of the younger and smaller trees, in the densest parts, cut away to make room for them.

For the historical account, &c., in the foregoing pages, I am indebted to a hand book, entitled "Parks, Gardens, &c.," by Mr. Edward Kemp.

THE SPECIAL WANTS OF THE WEST.

BY PROF. J. P. KIRTLAND, CLEVELAND, OHIO.

Dear Sir,—A taste for ornamental gardening has been rapidly developed, during the last few years, among the people of Ohio. Already the lawn and flower garden are common appurtenances of our country, and suburban residences, and conservatories and greenhouses are appearing in every direction. These latter structures are small, plain and neat,—not of the size and style on which a millionaire or a Duke of Devonshire would choose to make an ostentatious display

of wealth, but such as are adapted to the means and requirements of our population.

Almost every individual here is dependent on industrious exertion for support, and whenever such a manifestation of taste is exhibited, it must be considered an evidence that the possessor is stimulated by a pure love for the object itself.

Few can afford to maintain a professed gardener, and such establishments are, in most instances, conducted by the proprietor, with the aid of his family and ordinary hired help. As a consequence, there is springing up a class of practical and intelligent people, embracing farmers, merchants, mechanics, and professional men, their wives, sons and daughters, whose skill in horticulture, arboriculture, and floriculture, would do credit to a Paxton or a Lindley.

This condition of things may be neither correctly viewed nor duly appreciated in older and more wealthy sections of the Union, where customs, and perhaps institutions, have led many to consider labor and industry as degrading. To foreigners it is inexplicable. But it exists here, and will, no doubt, continue so long as the Western people adopt the "go ahead" maxim of Davy Crockett in preference to the precepts of Lord Chesterfield, and examples of Beau Nash.

Our object in alluding to this subject is to call your attention to some *special wants*, to which it has given origin.

First. There is needed a plan for a greenhouse, adapted to the requirements of people under such circumstances. It should embrace all the details for heating, ventilating, watering, &c., after the most simple, cheap, and effective method; one which experience has already tested, and not the production of some visionary schemer.

Much has been published on all these points,—yet so great is the discrepancy among authors, that, in attempting to decide upon what is adapted to our wants, here, at the West, the most intelligent is liable to misjudge. Who, by reading any periodical or other work which we can command, can say whether the brick-flue, air-tight stove, steam, Polmaise, tank, or hot-water-pipe system is to be preferred.

Last season we had occasion to select a plan for heating a

greenhouse 15 by 30 feet in dimensions, constructed with a span-roof. It seemed evident that a circulation of hot water in pipes from a boiler would afford the best and most reliable heat, and might be arranged so as not to be objectionable on the score of expense. A mechanic, in the city, advertised that he was prepared to execute such a plan. On applying to him, his estimate of expense for the undertaking was not less than *three hundred dollars*. We preferred to fit up a furnace, flue, and evaporating kettle at a cost of perhaps twenty dollars, and have had the pleasure to see it successfully tested by the late severe winter.

With the facilities for producing iron-casting, in almost every vicinity in the North and West, it would seem that a small and simple saddle-boiler might be as easily cast as a kettle or stove, and, with some ninety feet of pipe, might be furnished and put up at a small sum, compared with the estimate of that mechanic.

We have seen a large volume of water rapidly heated by means of a copper-boiler, constructed as a cylinder, the fire applied within, and an outlet and return pipe keeping up a circulation of the water between the boiler and the tank. The boiler cost *seven* dollars. The thought was suggested that the same principle might be applied for heating and circulating water through cement, wooden or metallic troughs, around the margins but within the walls of greenhouses. To what extent has this ever been tested?

Much remains to be learned on the subject of heating public and private establishments as well as greenhouses. A circulation of hot water will most certainly supersede most other methods, especially the hot-air furnace. It may be simplified in its plan so as to become not only the most comfortable and healthful method, but the most economical. In a sitting room of a private residence in this neighborhood a neat grate for burning bituminous coal has been set,—and is admired by all who visit the house;—yet the heat constantly lost, by passing up the chimney, would be amply sufficient to circulate hot water through every room in the tenement, and keep them all at an uniform and desirable temperature, better far

than is accomplished with one room, by the reflected and radiated heat of the grate,—provided that lost heat were applied to a boiler of the kind above described.

Second. A thorough and responsible mechanic is wanted, who would make the constructing of *greenhouses* and their fixtures a speciality. He should be able at all times to furnish such structures complete, of a suitable plan and given size, for a specified sum. Should such an individual locate here, and establish agencies at convenient points along the chain of lakes and on the railroads in the interior, he would command an extensive and remunerating patronage. Many who are contemplating to build such establishments, are at present deterred by the lack of facilities.

Third. An encyclopedia on gardening is an important desideratum throughout our country. Such a work should embrace every department, and be minute and practical in the details; so full, indeed, that a person on turning to any particular head, GESNERIA for instance, would be able to learn everything appertaining to it. To be informed, under that head, that it consists of "*thirty species and two varieties; stove-herbaceous perennials or evergreen shrubs; cuttings; rich soil,*"—which is the sum total furnished by Landreth's edition of Johnson's Gardeners' Dictionary, is as satisfactory to one of our Western florists as a Vauxhall slice would be to a hungry man. That publication is so brief throughout that it is of little practical value.

Buist's Flower Garden Directory is the best hand-book we can command, yet that work is liable to the same objection, though not to the same extent. Its worthy and excellent author could not do a better work than to bequeath to the American public a publication of the character now required. No one is better qualified for the undertaking.

It was a leading principle with the father of infinitesimal medicine, that "*what will cause a fever will cure a fever.*" Now, Mr. Editor, as you have had much to do in occasioning this condition of things, we may consistently, with medical transcendentalism, look also to you for the remedy.

The files of your Horticultural Magazine contain an im-

mense amount of interesting and practical information, precisely of the character our Western cultivators require,—yet few of them can command the full series of that journal. Cannot you devote sufficient time and labor to the compiling of such articles from that journal, and to them add original matter sufficient to form such an encyclopedia?

No cultivator better knows the wants of the great West than Dr. Kirtland; having grown up with its growth and given as much, or more, attention to Horticultural pursuits than any individual west of the Alleghany Mountains. He can therefore truly recount the special wants of the Western country, now teeming with its hundreds of thousands of inhabitants, engaged in the cultivation of the soil, and a large class employed in the arts and sciences. With the rapid increase of wealth resulting from the produce of its fertile soil, thousands are now able to enjoy the luxuries of the Atlantic towns and cities; but the means to supply them are not at hand, and it is this condition of things which Dr. Kirtland is desirous of seeing changed. We therefore commend his remarks to the attention of industrious and ingenious mechanics, who wish to enlarge their sphere of action; they will find abundant opportunity to do so in the West.

As regards the third special want which the Doctor enumerates, we cannot well say how soon that will be supplied. We must return our thanks for his pleasant compliments to our own labors, and we hope ere long, if time will allow, to supply those who cannot afford to possess a full set of our Magazine, with something such a volume as the Doctor suggests.—Ed.

DESCRIPTIONS OF SELECT VARIETIES OF PEARS.

BY THE EDITOR.

Notwithstanding the introduction of so many varieties of pears within a few years, the number of new and distinct kinds of real value which annually fruit is very limited. Nearly one-half prove to be synonyms of older and well

known kinds. The desire for mere novelty is wearing off, and the foreign nurserymen, finding they have little or no demand for only such as really have some reputation, are more careful in adding to their collections than formerly. Hence the number of new varieties which are yearly coming into bearing is constantly lessening, while their quality is gradually improving; nearly all possessing more or less merit. Vexing errors still occur, and occasionally a rare and high priced "*nouvelle*" proves to be only an old acquaintance. One of this kind was offered by the Belgian nurserymen last year, under the name of "Beurré Comice de Toulon." It was highly praised, and indeed pronounced a remarkable acquisition. It now proves to be nothing more than the Le Curé! Such are the disappointments to which pear cultivators must submit if they would possess all the fine varieties.

There is no remedy, however, but a better knowledge of the character, habits, wood and foliage of trees, which will enable an observing cultivator to detect these errors by the growth of the trees alone; to wait till they come into bearing is too late to prevent their perpetuation.

We now describe and figure six additional varieties.

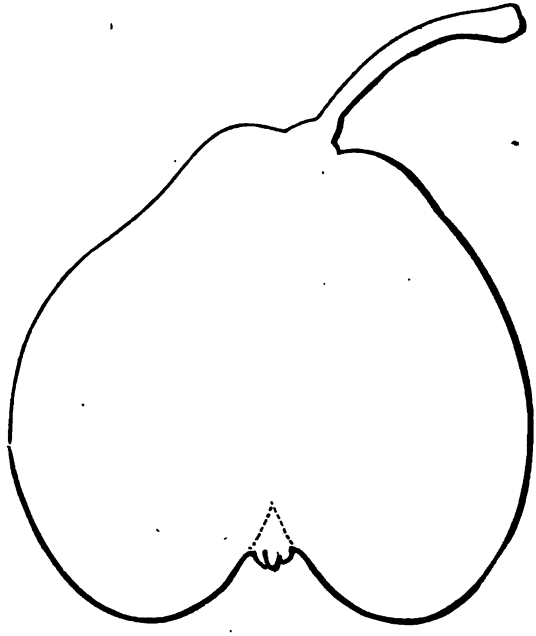
187. Fondante du Comice.

This new pear (fig. 11) was, we believe, introduced to notice by the Horticultural Society of Angers, France, and the trees disseminated by M. Leroy of that city. Specimens of the fruit were sent to the Massachusetts Horticultural Society three years ago, and noticed by us in our volume for 1854. It proves to be a valuable acquisition. Last year and year before it fruited in our own collection, and in 1855 the specimens were large and fine, showing much better its true merits than the first year of bearing. We have no doubt it will become a popular variety, ripening as it does late in the autumn.

The tree is a good, though not rapid grower, with yellowish wood, and it appears to succeed well upon the quince.

Size, large, about three inches long and three in diameter: *Form*, regular, obovate, broad and flattened at the crown,

suddenly narrowing towards the stem, ending obtusely: *Skin*, fair, greenish yellow, becoming lemon yellow when mature, suffused with a light tint of red on the sunny side, and thickly dotted with minute green and russet specks: *Stem*, medium length, about three quarters of an inch long, rather slender, fleshy at the base, curved and obliquely inserted in a broad



11. THE FONDANTE DU COMICE PEAR.

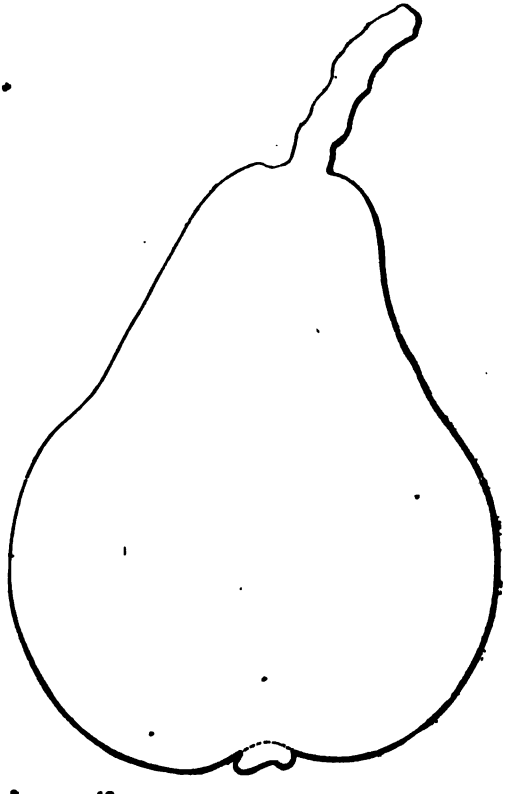
shallow cavity, with a slight projection on one side: *Eye*, small, open, and deeply sunk in a large, open, rather deep basin; segments of the calyx short: *Flesh*, yellowish, little coarse, melting and juicy: *Flavor*, rich, saccharine and sprightly, with a pleasant aroma: *Core*, medium size: *Seeds*, large, broad and dark. Ripe in November and December.

188. SOLDAT LABORER. *Album de Pomologie.*

Opheline d'Enghein of the French.

The Soldat Laborer, (FIG. 12,) having been unfortunately confounded by the French nurserymen with the Beurré

d'Aremberg, and the latter for many years extensively disseminated for it, is comparatively a new pear, though raised as long ago as 1820. It is not even mentioned in the Catalogue of the London Horticultural Society for 1842, nor is it described in any pomological work except the one above quoted. It was first introduced into American collections six or eight years ago, but it has never fruited in perfection till within two or three years.



12. THE SOLDAT LABORER PEAR.

According to Bivort, the Soldat Laborer was one of the first seedlings of the late Major Esperin, in his pomological career, after his return home from the perilous campaigns of the Empire, when he devoted himself exclusively to the culture of the choicest varieties of fruits. When sent out from

his collection among the French nurserymen, the error we have alluded to was made, and hence the substitution of the Beurré d'Aremberg for it in all the trees which were received from that source. It was not till we received trees from Belgium that we possessed the true Soldat Laborer.

The habit of the tree is erect and symmetrical, forming naturally a perfect pyramid; grafted on the pear it makes a stately tree, and does not come into bearing for a long time, but at mature age produces abundantly. It succeeds well upon the quince.

The Soldat Laborer M. Bivort calls a "precious" acquisition; and gives it the highest rank among those pears which may be cultivated in orchards or exposed situations in Belgium. Our own experience with it, though limited, warrants us in confirming his opinion. It is a late autumn pear, ripening at the same period as the Beurré Diel. The fruit is large and handsome, and the productiveness of the tree, as well as its hardy character, render it a much valued variety.

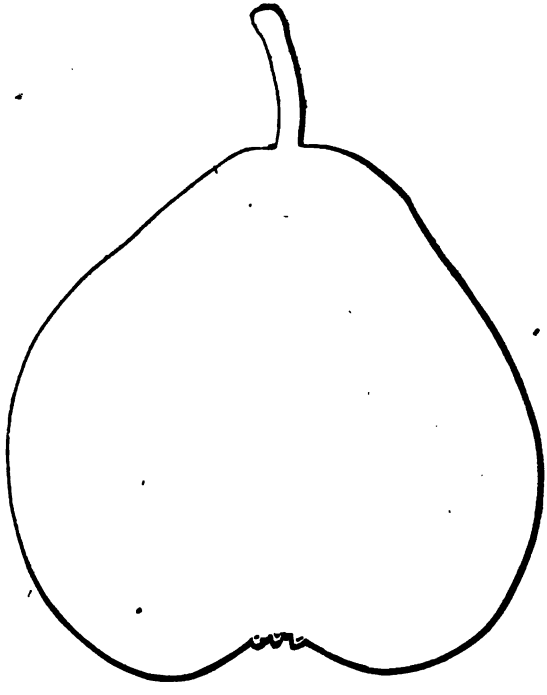
Size, large, about three and a half inches long and three inches in diameter: *Form*, obtuse pyramidal, large at the crown, contracted near the middle, and slightly uneven on the surface: *Skin*, fair, smooth, yellowish green, becoming clear yellow when mature, much traced with russet, and conspicuously dotted with russet specks: *Stem*, medium length, about three quarters of an inch long, stout, wrinkled and somewhat fleshy, inserted in the obtuse end without any cavity: *Eye*, large, open, and set nearly even with the surface of the crown; segments of the calyx, short, thick: *Flesh*, yellowish, little coarse, melting and juicy: *Flavor*, saccharine, rich, and pleasantly perfumed: *Core*, large: *Seeds*, rather small, sharply pointed, light brown. Ripe from November to January.

189. WREDOW.

This pear, (FIG. 13,) though recently received as a new variety from Angers, has been in cultivation for some time. We had it from Jersey, upwards of ten years ago, and fruited it five or six years since, and supposed it must be different

from the one sent out as new by M. Leroy, until the latter came into bearing, when their identity was proved beyond a doubt. Owing to an unfavorable situation, our trees did not produce large and fine specimens until last year, which prevented our giving an outline of it before.

The origin of this pear is unknown. Even the orthography of its name is doubtful. It is, probably, a French vari-



13. THE WREDOW PEAR.

ety. It does not appear to be generally known to European pomologists, and it is only recently that its name has found a place in nursery catalogues.

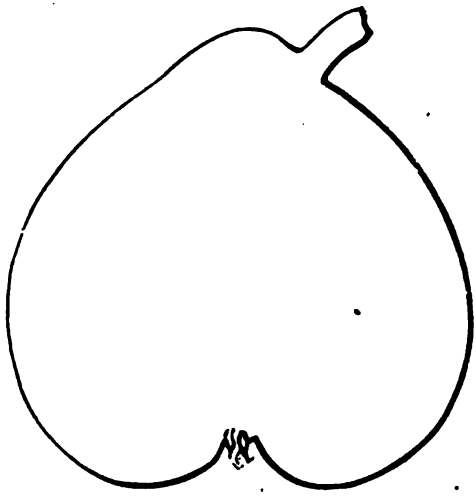
The tree is moderately vigorous, with very much of the habit of the Bonne des Zees. The bark of the old wood is rough and cracked like that pear, and the disposition of its branches is similar. Wood yellowish.

Size, large, about three inches long and two and a half in

diameter: *Form*, obovate, rather full at the crown, narrowing to the stem end which is rather obtuse: *Skin*, fair, slightly rough, dull greenish yellow, nearly covered with blotches and tracings of pale cinnamon russet, slightly browned on the sunny side: *Stem*, short, about half an inch long, moderately stout, nearly straight and obliquely attached without any cavity: *Eye*, medium size, open, and sunk in a small, moderately deep smooth basin; segments of the calyx long, narrow, reflexed: *Flesh*, yellowish white, coarse, melting and juicy: *Flavor*, rich, sugary, sprightly, perfumed and excellent: *Core*, medium size: *Seeds*, small, broad and dark. Ripe in October and November.

190. CHARLOTTE DE BROWER. *Album de Pomologie*, Vol. III.

The Charlotte de Brower, (FIG. 14,) is another of the seedlings of M. Esperin, and first bore fruit about the year 1835.



14. CHARLOTTE DE BROWER PEAR.

It is a very handsome pear, with a pale cinnamon russet skin, and though not of the very highest quality, is such an abundant bearer, and ripens at so desirable a season, that we think it will become a popular variety. Its fertility is wonderful, and a small tree, loaded with fruit, is a beautiful object. It

is but a few years since it was introduced, and it is still confined to amateur collections.

Size, medium, about two and three quarters inches long, and the same in diameter: *Form*, roundish obovate, broad at the crown, narrowing little towards the stem: *Skin*, fair, smooth, green and russet, becoming of a rich golden russet when mature, showing in spots the yellow ground: *Stem*, short, less than half an inch long, stout and obliquely inserted in a very small cavity, on one side of a slight projection: *Eye*, small, open, and rather deeply sunk in a contracted basin; segments of the calyx long, narrow, twisted: *Flesh*, pinkish white, half melting, buttery and juicy: *Flavor*, rich, vinous, slightly perfumed and excellent: *Core*, small: *Seeds*, medium size, short, broad, nearly black. Ripe in November and keeps well.

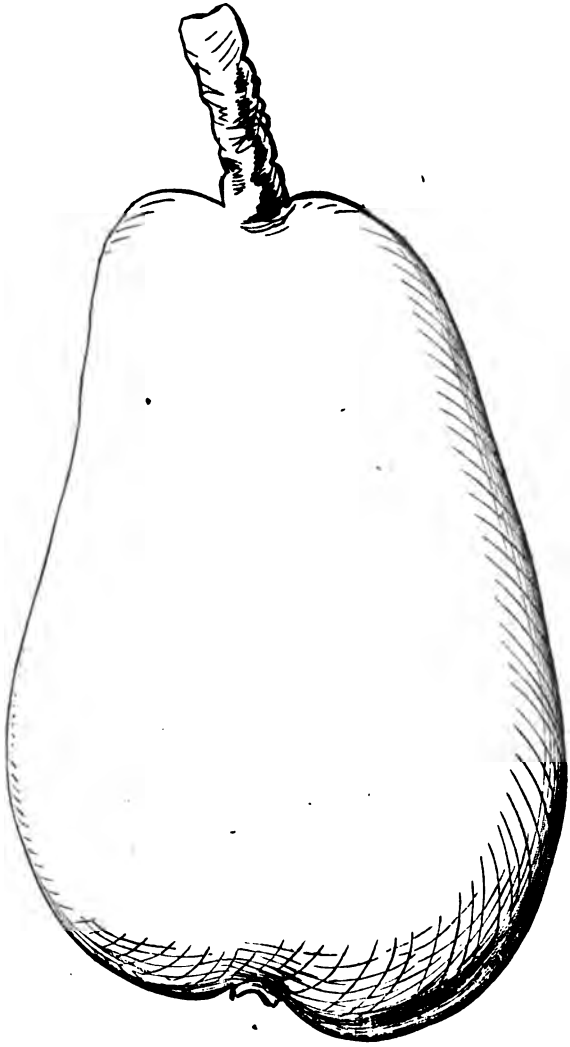
191. Pater Noster.

Among a collection of pears sent to the Massachusetts Horticultural Society, in the autumn of 1853, by M. Leroy, was one called the Pater Noster, a very large and handsome specimen, and of excellent quality. We had previously had a pear, under this name, from J. C. Lee, Esq., of Salem, which fruited in his collection, but it was so much smaller than that from M. Leroy, that we supposed they could not be identical. Recently young trees have commenced bearing in our collection, and we find they are both the same thing; the fine specimens of M. Leroy having, undoubtedly, been taken from trees under a higher state of cultivation.

The variety, (fig. 15,) does not appear to have been described by any pomological writer. We find it mentioned in Du Briel's *Cours Elementairé*, as one of a number of choice kinds recommended for cultivation in France. Its name also appears in the last edition of the catalogue of the London Horticultural Society, but nothing was known of its merits.

The Pater Noster is a very large and excellent pear, of somewhat the character of the d'Aremberg, and perhaps too acid for some tastes, but its size as well as good qualities commend it to the attention of cultivators.

Size, large, about four and a half inches long and three in diameter: *Form*, oblong, irregular in outline, with a somewhat knobby and uneven surface, rounding off to the crown,



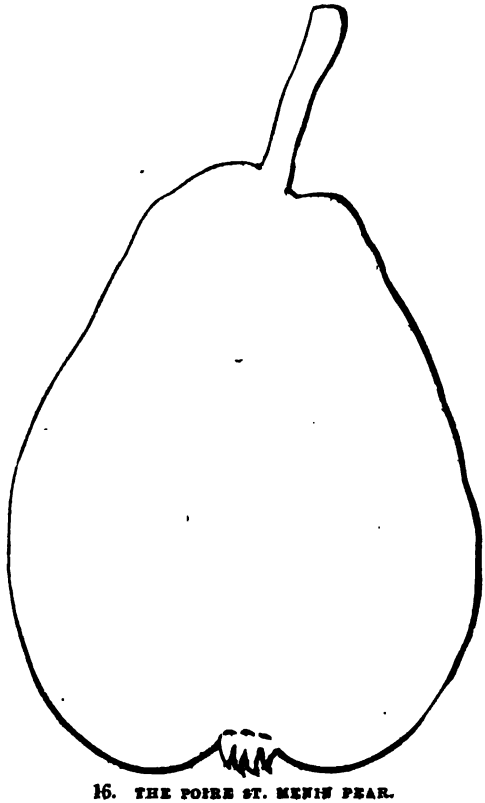
15 THE PATER NOSTER PEAR.

and very obtuse at the stem: *Skin*, fair, smooth, yellow, somewhat russeted, and dotted with russet specks: *Stem*,

medium length, about three quarters of an inch long, stout, wrinkled, swollen at the base, fleshy, and obliquely inserted in a small angular cavity: *Eye*, medium size, open, and slightly sunk in a small round basin; segments of the calyx short, thick, connected: *Flesh*, yellowish, fine, melting and very juicy: *Flavor*, rich, vinous, sprightly, perfumed and excellent: *Core*, medium size: *Seeds*, medium size, very large, and sharply pointed. Ripe in November and December.

192. Poire St. Menin.

Ten years ago we received a large variety of new pears,



16. THE POIRE ST. MENIN PEAR.

and of the number several have proved superior sorts; among them were the Beurré Superfin, Beurré Benoits, Grand

Soliel, and others, as also the one we now describe; all of them fruited long ago, with the exception of the St. Menin, (FIG. 16): this did not bear until 1854, when the specimens were too small to attract much attention. Last year it bore again, and the pears were not only very large, but of the most delicious quality, fully equal to any of those we have just named. It also ripened quite early, before or about the time of the Bartlett, with fruit nearly as large, and of the rich appearance of the Beurré Bosc, being of the same pale russety color. What is its origin or history we cannot learn, but it appears surprising that so good a pear should not be better known.

Size, large, about three and a half inches long, and two and a half in diameter: *Form*, oblong or obtuse pyramidal, largest about the middle, rounding off to the eye, and tapering but little to the stem: *Skin*, slightly rough, dull yellow, inclining to pale russet, with a slight tinge of red in the sun, and very thickly covered with large, showy, russet specks: *Stem*, medium length, about three quarters of an inch long, stout, and inserted in a very small, scarcely depressed cavity: *Eye*, medium size, open, and but little sunk in a small, rather shallow basin; segments of the calyx narrow, long, projecting, rather stiff: *Flesh*, yellowish white, little coarse, melting and very juicy: *Flavor*, exceedingly rich, sugary, highly aromatized and delicious: *Core*, rather large. *Seeds*, small, long, angular, dark. Ripe early in September.

THE ROSE AND ITS CULTURE.

BY A. D. G., CLINTON, NEW YORK.

WE make no apology for trying to speak a few words in behalf of the Rose; though, sooth to say, this queen of the garden is able to speak for herself. A great deal has been written on this subject, so that it is impossible now to present anything new. But, as poets and lovers will never cease

descanting upon female loveliness, because the theme is exhaustless, so will it be with lovers of the rose.

It is said that no fossils of this family of plants have ever been discovered by geologists; which shows that "the introduction of this flower upon the earth was coeval with, or subsequent to, the creation of man, to whose comfort and happiness it seems especially designed by a wise Providence to contribute." At the mere mention of the rose, a thousand pleasing associations arise. We are at once amid fables mythological and scriptural; we are wandering in Eastern lands, inclining at royal tables upon perfumed couches, floating in gilded barges down sunny rivers, breathing a balmy atmosphere and gazing on scenes of enchantment.

"How much of memory dwells within thy bloom,
Rose! ever wearing beauty for thy dower!
The bridal day—the festival—the tomb—
Thou hast thy part in each, thou stateliest flower:
Therefore with thy soft breath come floating by
A thousand images of love and grief—
Dreams filled with tokens of mortality;
Deep thoughts of all things beautiful and brief.
Not such thy spells o'er those that hailed thee first,
In the clear light of Eden's golden day!
There thy rich leaves to crimson glory burst,
Link'd with no dim remembrance of decay.
Rose! for the banquet gathered, and the bier!
Rose! colored now by human hope or pain;
Surely when death is not, nor change, nor fear,
Yet may we meet thee, joy's own flower, again."

The rose has always been the type and the adornment of beauty; it is associated with the memory of children, of lovers, and of united families. Indeed, so universal is the regard for it, that were we to meet with a country house where some of its varieties could not be found, we should suspect that something was wrong about the proprietor, and that if he were not "fit for treasons, stratagems and spoils," he ought not to be "trusted" at least, to any large amount!

It is surprising that with all this acknowledged fondness for the rose, so little attention is given to the culture of its

finer varieties. Most people know that there is a red rose, a white rose, and a pink rose, and that they blossom once in June; and this is the extent of their information. The bushes they have seen were in the "front yard," standing, perhaps, in a poor soil, amid coarse, matted grass and overgrown shrubbery, where they had stood for many years without any cultivation. They *live*—for the rose is a patient thing under hard treatment—but do not thrive, nor develop half their beauty. So long as the rose continues to suffer this comparative neglect, our horticultural papers should often present its claims to careful cultivation.

To succeed well with this flower, the ground should be trenched two feet deep, and enriched with barn-yard manure. For the finer sorts of perpetuals, six or eight inches of small stones should be thrown into the bottom of the bed to drain off all surplus water. Without such drainage, the plants will not grow and bloom satisfactorily, and, unless the soil is naturally quite dry, they will be very likely to die in winter. During the growing season, the ground should be kept loose and free from weeds, and in dry weather an occasional watering with soap suds or weak guano water will not be labor lost. In the fall, the beds should be covered with several inches of manure to serve as a winter protection to the roots and for the enrichment of the soil. This may be forked into the ground in spring. Roses in beds should be set from two to four feet apart, according to their habits of growth, the larger in the rear and the smaller in front, so as to bring all into view at once. Or, if the bed is surrounded by a walk, the taller kinds should be planted in the middle. Quite an agreeable effect can be produced by a studied arrangement of colors. A favorite plan with many amateurs is to set the different colors in beds by themselves. Others recommend to set the extremes of color at opposite ends of the bed, and then to shade off into each other. In large, circular beds, some dispose their plants in zones of color strongly contrasted. Hardy roses should be planted in the fall, or very early in the spring. This work should be done with the utmost care, avoiding mutilation of the roots, resetting them in the finest

mould, and tying their tops to a small stake to prevent their being blown about by the wind. Nearly all roses are improved by a severe annual pruning. Every spring the beds should be examined, and all the old, decayed wood and feeble shoots cut away. Climbing roses should have only the extremities of their long shoots clipped, and their lateral branches pruned back to one eye.

Many roses require protection in winter, and all are benefited by it. They should be carefully bent to the ground and fastened there by stakes, and their tops covered with leaves or a light dressing of litter. Hybrid perpetual roses should always receive this amount of protection. The Bourbon, Noisette, China and Tea varieties are more tender, and require greater care to preserve them through the winter. Some persons dig them up in the fall and bury them in a dry and sheltered corner of the garden; others set them in a rough frame, covered with window-sash and matting; others remove them to the greenhouse. But, ordinarily, there is no need of this trouble. Where it is convenient to do so, it may be well to put tea roses in a frame or greenhouse; but all the other sorts may be easily kept out of doors. Any time before the first of December peg the shoots carefully to the ground, set boards a foot wide around the margin of the bed, fastening them in an upright position, with stakes; throw a few leaves and a little dirt from the woods over the tops of the plants, then fill up the space within the boards with spent tan bark, and over the whole lay a few boards so as to shed rain. In the spring remove this covering, a little at a time, and the plants will be found in perfect health, the leaves green and the buds plump and fresh and beginning to grow. The writer of this article has tried the above course for four years past with perfect success, and therefore recommends it to others with great confidence.

Roses may be propagated in various ways. Cuttings placed in a warm, sandy soil, and covered with a window-sash and frequently watered, will generally strike in a short time. The hardy kinds are more commonly increased by layers. In the early part of summer, select a young, well-ripened shoot,

make a slit upwards in it about half way through, just below a bud; in the tongue thus formed insert a small chip to prevent its closing up; then peg down the shoot in the soil three or four inches below the surface, fill up the hole and cover the earth with moss or grass or a flat stone. The extremity of the layer should be several inches above ground, and be tied to a stake to prevent injury to the forming rootlets. In some cases it may not be necessary to resort even to this mode of propagation, for many sorts throw up suckers, which may be removed annually from the parent stock. Some gardeners increase their roses by budding and grafting. They hold that the feeble and low-growing varieties are improved by inserting them on more vigorous stocks. This, certainly, is an easy way of multiplying choice and rare plants; and if they are carefully fastened to rods to prevent the bud or graft from being broken off, and if the suckers, which always throw up from the stock, are regularly kept down, such roses may be endured; but, as a general rule, those on their own roots are much to be preferred.

Perhaps the greatest practical hindrance to successful rose culture is the ravages of the bug. When one has only a few plants, the best exterminator is the thumb and fore finger. Don't fear to soil your hands, gentle lady; a little soap and water will at once make them fair as the lily again. Large beds of roses may be freed from the bug by a few doses of diluted whale oil soap, or tobacco water, or the fumes of burning tobacco. The liquid should be applied with a garden syringe, having an upturned nose, which will reach the insects on the under side of the leaves. The formula for preparing the soap water is this: Dissolve the soap in boiling water, at the rate of one quart of water to a pound of soap; strain through a sieve to cleanse it from the dirt which would otherwise clog up the syringe; then add cold water at the rate of fifteen gallons to two pounds of soap. A few thorough applications of this mixture, morning and evening, will kill any decent insect.

In venturing to suggest a list of the most desirable roses for general cultivation, the writer does not claim infallibility

of judgment, but simply mentions his own favorites, for the benefit of beginners.

Of CLIMBING ROSES, for the pillars of a piazza and for trellises, Queen of the Prairies, Baltimore Belle, Mrs. Hovey and Eva Corinne, are among the best.

Of common JUNE ROSES, the following will give universal satisfaction: Venus and Madame Hardy, white; Nelly, pale waxy, rose; Caroline Mignone and Triomphe de Abbeville, bright pink; Bon Ginevre, bright red; Catel, curiously shaded with red, crimson and purple; La Tourterelle, dove colored; George IV., crimson, large; Aurętti, small, but very dark crimson, double, compact, imbricated; Harrisoni, light yellow, double; Persian Yellow, dark sulphur, cupped. And of Moss ROSES, the Luxembourg, Princess Adelaide, and General Drouot, should not be omitted. And for the sake of "auld lang syne," the Cabbage, Village Maid, and old White roses should be added.

Among HYBRID PERPETUALS, the following are excellent: Baron Prevost, dark rose, large; Queen Victoria, pale blush; Mad. Lamoriciere, fleshy pink, perfect form; Giant of Battles, dazzling crimson; Caroline de Sansal, blush, very large; Lion of the Combats, crimson; Mad. Laffay, cherry red; La Reine, rosy lilac, very large.

Of the BOURBONS, these: Acidalie, white; Souvenir de la Malmaison, pale waxy blush, the queen of all roses; Hermosa, deep rose, cupped, exquisite; Levison Gower, dark centre, shaded to a pink rim; Queen, delicate fawn, fragrant; Paul Joseph, purplish crimson; Mad. Desprez, dark rose, globular.

The CHINA roses should not be overlooked. Here are some favorites: Arch Duke Charles, rose changing to crimson, peculiar; Aggrippina, brilliant crimson, cupped; Mrs. Bosanquet, "the wax rose," beautiful, creamy blush, deservedly a great favorite; Louis Phillippe, dark crimson, globular.

Of NOISETTES, the following: Aimee Vibert, white, profuse bloomer; Augusta, yellow, resembling Solfataire, but more globular; Champney, pink clusters, always in bloom; Fellenberg, crimson; Lamarque, white, double, large; Ophir, orange, or copper color, fragrant, distinct.

Of Tea roses, we venture to name only Bougere, glossy bronze, large, cupped; Clara Sylvain, white; Eliza Savage, Canary yellow; Devoniensis, creamy white, buff centre, a great favorite.

If, now, our list is too large for any reader of these pages, we would say, reject all the June roses, except Venus, Persian Yellow, and Luxembourg Moss. And if there must be a still further reduction, then give up the Tea roses, on account of their tenderness and the special care they require. But if you propose to discard others, you must do it on your own responsibility; we certainly have not the heart to cast any of them aside.

Most cordially do we welcome our correspondent to our pages, and though the first, we trust it will not be the last communication which our readers may expect from his pen. They will recognize in its sound advice, not merely professional lore, but the well-earned information of a successful amateur, who tells us, not what others have done, but what he does himself, and how he does it. No clearer, plainer, or more practical directions could be laid down for the culture of the rose, the most beautiful as well as the most neglected of plants. It is as timely as it is valuable, and as it is intended for new beginners rather than old rose fanciers, we trust it will be an incentive to their zeal in the culture of this favorite flower.—Ed.

OUR AMERICAN FIRS AND SPRUCES.

BY WILSON FLAGG.

The Firs and Spruces are readily distinguished from the pines by their botanical differences, and by general marks which are apparent to the common observer. Their leaves are shorter than those of the pines, and solitary. Their cones are small and they ripen their seeds every year. In general appearance they are not so sturdy in their growth as the

pines: their lateral branches are smaller, shorter, and more numerous, and they run up to a greater height in proportion to their breadth, forming more nearly a perfect spire. Of this division of the coniferous trees, there are but four species in this part of the country, of which the most remarkable is the

I. Hemlock Spruce.

The Hemlock (*Abies Canadensis*) is confessedly the most beautiful of the coniferous trees; and probably it is only the want of success usually attending the transplantation of it from the woods, that has prevented the general adoption of it as an ornamental tree. It has an uneven perpendicular trunk, and smooth branches with very slender terminations, in which it differs greatly from other species of the same genus. To these slender and flexible terminations may be attributed, in a measure, the superior gracefulness of this tree, compared with the other spruces and firs. The same difference has already been remarked as existing between the white pine and its kindred species. This circumstance, in connection with the density of these terminal branches, and their single rows of soft and delicate foliage, yields that wavy, graceful character to the tree, which is one of its principal beauties.

The leaves, of a light green on their upper surface, and of a dotted silvery lustre beneath, are arranged in single rows on each side of the branches. The slender footstalks of the leaves, though extremely short, give them a slight mobility, which is peculiar to this species. Hence, when the tree is shaken by the wind, the leaves, though not tremulous, are put into a sort of wavy motion, like a net work of spangles: but this motion proceeds chiefly from the minute branchlets that bear the foliage. This individual motion of the leaves is made apparent by the silvery glitter of their under surfaces, contrasting with the pure green of their upper surface, and is one of the interesting appearances connected with this tree.

In the deep forest the beauty of the hemlock is not apparent. There it sends up a shaft, often to the height of sixty and sometimes eighty feet, without any diminution of its di-

ameter, until it tapers off suddenly, and forms a round mass of foliage, projecting above the heads of the other trees of the forest. Like the pines in the same situation, it is covered with dead branches, protruding from the trunk, and giving it a very unsightly look. These dead branches, when the tree has been cut down, are often observed to extend from the heartwood directly through the sapwood of the trunk, forming a hole as round as if it had been bored with an augur. This appearance is caused by the continued growth of the sapwood after the branch is dead, every year forming a little circle round it, but not inosculating with its substance, as it would, if the branch had not lost its vitality.

We see the full beauty of the hemlock on the edges of woods or outside of them, where it has had an opportunity to expand and acquire its just proportions. In these situations we discover that it is less formal in its shape than other trees of the same genus. The branches of its summit being slender and flexible, do not stand upright like the lightning rod of a spire; they bend slightly over, and wave gracefully in the breeze, in connection with the upper terminations of the lateral branches, that nearly equal the central one in length. Especially while the tree is young do we behold in it a dense mass of glittering verdure to which that of but very few other trees is comparable.

The branches of the hemlock are exceedingly numerous, and remarkable for their horizontal arrangement, and for the absence of those regular whorls which characterize the other species. They grow out irregularly from all parts of the surface of the trunk, small in proportion, tending from their horizontal position gracefully upwards, and waving gently in the wind. Except at the extreme summit, the branches are subdivided into minute branchlets, that form with them a flat surface, like the tripinnate leaves of certain umbelliferous plants. These branches sometimes lie one above another, each bending down at the extremity upon the surface of the one below, like the tiles on the roof of a house. It is easy to mark in the foliage and spray of this tree a resemblance to the Poison hemlock (*Cicuta maculata*), from which it probably derived its name.

The bark of this tree is of a reddish brown, divided by furrows that separate it into scales, which are more or less persistent. The young trees and branches have a smooth gray bark like that of the Fir balsam. The cones are small, pendulous, and attached to the extremities of the branches, arriving at maturity in the autumn. The hemlock is found on all kinds of soil, though its thrifty growth is an indication of depth and fertility. It is fond of moisture, often bearing its graceful branches aloft upon the summits and steep sides of granitic rocks and precipices which are supplied with perpetual rills.

The hemlock is confined, in its geographical range, to the northern parts of the American continent, but does not extend into so high a latitude as the other spruces. It does not bear transplantation well, especially when the young trees are taken from the woods; they ought always, therefore, to be purchased from the nurseries. On the average it is rapid and thrifty in its growth, increasing slowly during the first few years, and more rapidly as it advances in age. The timber of this tree is of an inferior quality, having a tendency to open between the successive circles of its growth, and being liable to warping. The knots in the boards made from hemlock are apt to be loose, and to separate from them, leaving them full of holes. With all these faults hemlock timber has considerable durability and firmness, and is extensively used for boarding the roofs of houses. The bark is valuable for tanning, and is employed in combination with oak bark. The hemlock bears pruning well, and, on account of the closeness of its branches, it surpasses most other evergreens when used as a shelter from the winds.

II. Black Spruce.

The Black Spruce *(Abies nigra)* is not often found in the woods of Massachusetts, and is scarce also as an ornamental tree, the Norway spruce, which is a more rapid-growing and stately tree, being generally preferred. The Norway spruce is a taller species, with lighter and brighter foliage, and inferior to it only in the closeness and density of its leaves, in

which the Black spruce exceeds it. One remarkable appearance to be observed in the spruces, with the exception of the hemlock, is their pendulous foliage, that swings gracefully from their horizontal branches. The hemlock has a droop of the extremities of the branches, without any appearance of formality. The other spruces extend out their horizontal branches stiffly, and from these the smaller branches, clothed with foliage, hang down almost perpendicularly, like fringe. This appearance relieves it of a portion of that stiffness which is so apparent in the young trees, and which marks the Balsam fir through all periods of its growth.

The foliage of the Black spruce is more dense than that of any other species, as the leaves grow very closely upon all parts of the surface of the branches, and are remarkably persistent. They do not fall, until, by the growth of the branch, they are set an inch or more apart. Hence this tree does not exhibit that baldness which we observe in the Balsam fir and the White spruce, as they advance in age. Its whorls, consisting of about four branches, are distinct, while the tree is young; but as it grows older and larger, some of the branches in the whorl become abortive, and irregular ones, between the stages, increase and fill up the intervening spaces. The principal branches at first spring from the tree at a wide but not a right angle. They become gradually horizontal, and lastly, when the tree is old, they bend downwards, but without any curve.

The Black spruce is not a large tree, though in higher latitudes, and in a favorable soil, it sometimes exceeds sixty feet in height. Its trunk, which is very straight, tapers gradually from the root to its extremity. The bark is somewhat rough and scaly, of a light brown color, and not furrowed. The cones are pendulous, egg-shaped, about an inch in length, and of a fine purple hue before they are mature. This tree is found in its perfection and in its greatest abundance in high northern latitudes, and forms a large proportion of the forests of the whole tract corresponding in latitude with Maine and Lower Canada.

The wood of the Black spruce, especially of that variety

of the species called the Red spruce, is of the highest value, especially for ship-timber. There is no other kind of wood that has so much strength in proportion to its weight. It is remarkable for its elasticity, and is not surpassed in durability even by the larch. On account of its combined lightness and strength, it is extensively used for spars and for the masts of smaller vessels. It is indeed employed for all parts of the vessel for which its size renders it suitable, and is said to outlast almost every other species of timber which is used for such purposes.

III. White Spruce.

The White Spruce *(Abies alba)* is more common than the last in our swamps; it is a smaller tree, more slender and tapering, and seldom exceeds fifty feet in height. Its foliage is less dense, though longer, and not so persistent as that of the Black spruce, falling off at the end of the second or third year of its growth. The light green hue of its foliage yields a lively appearance to the tree, and distinguishes it from the former more than any other apparent quality. The branches are somewhat irregularly disposed, though it has still more or less of that disagreeable primness which causes all this class of trees to be suggestive of artificial precision and dandyism. The White spruce is also attached to high northern latitudes, and was found by Hooker farther north than any other tree in America. Its timber has the same properties as those of the Black spruce, and is remarkable for the fine polish that may be given to it. The aborigines are said to employ the tough fibres of the wood of this tree for sewing their bark canoes.

IV. Balsam Fir.

The Balsam Fir *(Abies balsamea)* by some naturalists is separated from the genus Abies, and described, with other species, under the generic name of *Picea*. As my descriptions of trees are *picturesque* rather than botanical, I prefer, for the sake of simplicity, to consider it as one of the genus *Abies;* and it seems to me to differ less from the common spruces than the latter differ from the hemlock. The Balsam fir,

though a comely tree, when standing outside of the forest in its full proportions, has acquired a great deal of false reputation. There is something about it, while it is young, that attracts the attention of the crowd, and has caused it to be very generally planted as an ornamental tree. As it increases in stature, it is found to be unworthy of its reputation, and inferior to all other species of this tribe. The Balsam fir has probably derived some of its credit from its resemblance to the Silver fir of Europe, which surpasses it both in stateliness and beauty, rising often to the height of an hundred feet, while the American tree seldom exceeds half that height.

The Balsam fir has a smooth bark, leaves of a bright green with a silvery lustre beneath, closely arranged upon the branches, and curving upwards. The small branches have the same stiff, upward tendency, never hanging downwards like those of the spruces. The under-surface, formed by the foliage and branches of the fir, is more flattened and convex than that of the spruce; and this circumstance causes the regularity in the staying of the branches of the former to be remarkably apparent. The Balsam fir grows more rapidly than most other trees of this tribe, with great regularity and primness, bearing its branches stifly and horizontally in regular whorls, with a perfectly straight trunk, tapering gently at the summit, and forming, when well developed, a very elegant spire. As it increases in height, its lower branches do not increase proportionally in length, and hence the outlines of the tree are very gradually tapering, resembling an obelisk, except at the summit. Among the other beauties of this tree may be mentioned the bright green of its foliage and the clusters of erect and purplish cones borne upon the upper branches.

It was formerly the custom to plant Italian poplars before our dwelling-houses, and along the sides of avenues and narrow streets. These trees were well adapted to situations of this kind, on account of their habit of sending out their branches, at very acute angles with the main trunk, and requiring but little space to spread to their full dimensions. They could be placed within a few yards of a dwelling-house,

and expand to their greatest breadth, without coming in contact with the building. Their dense and tremulous foliage, their balsamic fragrance, and their elegant pyramidal forms seemed justly to render them favorites with a preceding generation. As they were unable to withstand the severity of our winters, many of their branches annually withered, and they became thereby so greatly disfigured, that people were induced to cut them down, and plant other trees in their places. They fell into very general disgrace; and, amidst the ridicule that was cast upon them for their primness and general spinster-like appearance, their good qualities, like those of a clever old maid, were overlooked or forgotten.

The substitutes for these trees are chiefly Balsam firs, which possess to a greater extreme those qualities of stiffness and primness which were condemned in the Lombardy poplar, without the beauties of the latter. The firs, with a foliage that is perfectly motionless, are now to be found in almost every front yard, standing like a military guard, with their guns pointing, as if they were ready to fire. These trees, in the open pasture, when they have attained their full height and proportions, are stately and beautiful. But when crowded into the narrow enclosures of our front yards, as they send out their branches at right angles with the main stem, those on the side next the house soon become leafless or abortive, the tree gradually loses its symmetry, the foliage of the interior branches withers, and the tree looks at length as if it had been half consumed by fire. What little beauty these trees possess, when they are young, is of a stiff and formal character, and this is lost when they have attained the height of about twenty feet. It is often regretted that some more valuable and durable trees were not planted by our predecessors, instead of the short-lived Italian poplars, whose places are now mostly vacant. Ten or twelve years hence we shall equally regret the present rage for spruces and firs. No single species of coniferous evergreens is proper for our front enclosures. A grove of these trees would make an excellent bulwark to defend us from the north winds; but we do not want them to keep the sun's rays from our windows in the winter, when this is the only purpose they serve.

The Balsam fir is one of the most hardy of American trees, bearing exposure with impunity in the most bleak situations. It is therefore well adapted for planting as a protection to other plantations that would otherwise be exposed to the winds. It bears transplantation well, and has unfortunately on this account been extensively employed as an ornamental tree in our New England villages. The wood is of but very little value, and it is surprising that this tree should ever have been taken from the woods.

Massachusetts Horticultural Society.

Saturday, Feb. 2d, 1856. An adjourned meeting of the Society was held to-day—Vice President Richards in the chair.

Mr. Walker, in behalf of the committee to draft appropriate resolutions on the death of the Rev. Jno. O. Choules, an honorary member, offered a preamble and resolutions which were accepted, and entered upon the records.

Voted, that the TWENTY-EIGHTH ANNUAL EXHIBITION of the Society be held in the third week in September, commencing on the 16th and to remain open at the discretion of the Committee of Arrangements. Adjourned four weeks to March 1.

March 1. An adjourned meeting of the Society was held to-day—the President in the chair.

No business of importance was transacted and the meeting adjourned five weeks to April 5th.

April 5th. An adjourned meeting of the Society was held to-day—the President in the chair.

Seeds were received from Mr. George Mountfort, consul at Candia; among them a tree strawberry, said to be peculiar to that island. The thanks of the Society were voted to Mr. Mountfort, and the Corresponding Secretary requested to forward a copy of the vote.

Adjourned four weeks to the first Saturday in May.

Horticultural Operations

FOR MAY.

FRUIT DEPARTMENT.

April has been a very pleasant month, with but few rainy days, and free from heavy frosts. Cool easterly winds have prevailed, which has retarded vegetation, or rather prevented too early a development of the buds of fruit trees, &c. But for such weather it might have been forced on so rapidly as to

endanger the fruit crop, should frosts occur in May, as they often do. The prospect now appears favorable for an abundant harvest of all fruits except the peach.

Grape Vines have been favored with the best of weather thus far, and the early kinds are ripening off their crop in the finest condition. Later varieties have also set their fruit well, from the same cause, and are now just ready for thinning. Attend to this operation as soon as possible, and support the shoulders of heavy clusters; keep the laterals well topped in plant-houses, but allow them to ramble more freely in graperies, as the shade will do no harm. Keep up a good temperature by lighting small fires every cool evening. Vines in cold houses will now be breaking, and should be well syringed every morning in fine weather; air freely, and do not force on the buds too fast.

Strawberry Beds should now be cleared, and top dressed with guano, or old decayed manure. New beds should be made during the month.

Raspberries should be tied up to strong stakes, and the ground be well manured and dug.

Grafting should all be completed this month.

Fruit Trees may yet be transplanted with safety.

Insects should be looked after: the canker worms, when young, can be easily destroyed by syringing with oil soap. The old tent caterpillars, which are often allowed to defoliate whole orchards, may be readily destroyed without the least trouble.

FLOWER DEPARTMENT.

The month of May brings with it a variety of beautiful flowers, which render the garden, the pleasure ground and shrubbery very attractive. But notwithstanding the interest which they possess, nothing should be left undone to keep up the interest of the greenhouse or conservatory; no month will they present a gayer aspect than now if the collection is judiciously chosen. The geraniums, cinerarias, lantanas, calceolarias, &c., as well as the few late camellias and azaleas, will display a greater mass of bloom than at any period of the year.

Continue to remove all plants that are out of bloom into frames or the open air, if hardy enough, which will give more room for the finer specimens as they come into bloom. Geraniums may be kept a long time in perfection by a slight shade in the middle of the day in sunny weather. All plants for bedding out will do much better by hardening them off in frames before turning them into the ground; all that is necessary is to protect them from cold rains and frost.

Already the labor of preparing plants for next season's blooming commences; if neglected until late in the season, their growth will be greatly lessened. Such things as Euphorbias, Poinsettias, Gesnera oblonga, &c., should be repotted, headed in, and started in a slight bottom heat. All the finer twining plants, such as Stephanotus, Echites, Allamanda, &c., should be attended to, giving them a warm place to get a vigorous growth early.

Camellias now completing their growth should still be liberally watered, and well syringed over the foliage.

Chinese Primroses of the double sorts should now be propagated by cuttings; and the old roots repotted. Sow seeds of the single sorts for blooming next year.

Heaths should be headed in now, and have a shift into larger pots; place them in a frame where they can be protected from heavy rains.

Azaleas will now be growing vigorously; water and syringe freely.

Pelargoniums will be coming into bloom; water cautiously and fumigate if the green fly makes its appearance.

Fuchsias will need another shift if large specimens are wanted; keep them in a situation where the hot sun will not reach them, and water occasionally with liquid manure.

Gloxinias and Achimenes may be brought in for a succession, and the early started plants be repotted.

Orange Trees may now be repotted, and pruned into shape before making their growth; water occasionally with liquid manure.

Acacias, which have already acquired a large size, should be headed in before they make their new growth. They bear the knife freely.

Cinerarias, done flowering, should have the protection of a cool frame.

Oxalises, Ixias, and other Cape bulbs, done blooming, may be placed away under the stage.

Chrysanthemums should now have attention; divide and pot the young suckers, or propagate your cuttings in the usual way.

Propagating, for next winter's stock, should nearly all be completed this month.

FLOWER GARDEN AND SHRUBBERY.

As the season advances, and the early flowering shrubs, bulbs, &c., begin to bloom, all should be neatness and beauty in this department. The walks and lawn should be often rolled, and the borders carefully raked; by the middle of the month the lawn will need mowing. Ground should be prepared for choice tender annuals now growing in pots, and hardy kinds should at once be sown in the open ground. Box edgings should be clipped and new settings made of thrift, pinks, or other similar edgings.

Perennial Plants of most kinds may be safely removed all the month.

Tulip Beds should have the top soil slightly loosened with a trowel.

Hollyhocks should be divided and reset.

Gladioluses may be planted out this month.

Carnations and Picotees should be planted out.

Bedding Plants, of most kinds, may be set out by the middle of the month.

Roses, yet unpruned, should be attended to immediately.

Dahlias may be set out the middle of this month.

Annuals, of all kinds, may be planted in the open ground, during the latter part of the month.

Pansies, wintered in frames, should now be removed to well prepared beds in the open ground.

FLOWER GARDEN ANNUALS.

NOTWITHSTANDING the hardy and permanent character of perennial flowering plants and flowering shrubs, and their peculiar fitness for gardens and pleasure grounds, where but little care is needed, which will always render them the most popular additions to every ornamental plantation, the Hardy Annuals still have a beauty of their own, and possess qualities and merits which few other plants can claim. They are easily raised from seed at the least expense—most of them will grow in any soil, and speedily produce a brilliant effect in their various forms and infinite variety of coloring. The most desolate garden may be made a scene of beauty in scarcely more than a month's time; and when, from want of time, or neglect to begin in season, the hardy shrubs, perennials and bulbs have not been planted out, recourse to these annual flowers will supply their place, and produce an immediate effect.

But we do not think so lightly of these often neglected annuals as to employ them only in case of necessity to fill up a vacant spot—or eke out a small bed—till something better can be obtained. They possess quite too much real beauty to be thus treated, and may justly claim at least an equal share of favor with the perennial plants. Who does not admire the glowing colors and rich mottling of the favorite Double Balsam, borne on its upright, transparent stem?

"Balsam, with its shaft of amber:"

Or the magnificent German Aster, or *Reine Margurette*, as the French call it, with its stately branches and large double flowers of every color?

Or the flaunting Marigold, which Shakspeare says

—— "goes to bed with the sun,
And with him rises weeping:"

but the poets, who have so often sung its praises, had refer-

ence to the old English marigold, and not to the elegant French varieties, which now embellish our gardens with their gold and velvet tinted blossoms, brought to great perfection by the Parisian cultivators.

Or the Marvel of Peru, or 4-o'clock, as it is often called, whose flowers do not open till evening, or exactly the reverse of

> "Those flowers that turn to meet the sunlight dawn,
> And those which slumber when the light is run."

These, with their striped flowers of all hues, obtained by M. Lecoq, a French florist, are among the finest annuals of the garden.

And the Scabious, desirable for its sweet odor, as well as its rich colors:

> "What regal purple with the Scabious vie?"

Or the Larkspurs, with their cærulean tints so clear and deep that some have supposed them the hyacinth of the poets.

Even the Poppies are not to be overlooked, for though long associated by the poets with

> "Trees of bitter gall and heben sad,"

still form one of the showiest ornaments of the garden, and, in their present improved state, will make a display scarcely less gaudy than the tulip.

And then the Gilliflowers, or Ten-week Stocks, which display their long spikes of fragrant blossoms,—red, purple, pink, blush, white, yellow, crimson, &c.,—all double, and blooming till frost. Who does not, we repeat, admire them all?

Neither shall we cease to love the more humble annuals, whose masses of bloom, when well cultivated and prettily arranged, form a carpet of diversified colors. The old Candytuft is one of these, the Alyssum another, Phlox Drummondii, Collinsias, Gilias, Eschscholtzias, Godetias, Lobelias, Nemophila, Nolana, &c., are others; and the Portulacas, now so much enriched by the acquisition of new colors—golden, white, crimson and scarlet—large beds of the latter two dazzling the eye with their brilliancy when the sun shines upon them, while the others form striking contrasts.

All these and many more, too numerous to mention, who does not ever welcome to a place in the flower garden? Even the brilliant Verbenas, and other bedding plants, make but little show beside several of those we have mentioned.

The real beauty of most of the annual flowering plants, excepting such as we first enumerated, can only be truly appreciated when they are cultivated in masses—that is, in circles or beds containing several plants. In this way they present such a profusion of bloom that they at once strike the observer as being the most charming of flowers. In England, where large flower gardens are laid out similar to those we gave designs for in our last volume, and entirely planted with annuals, or with annuals and bedding plants, they form the most interesting feature of the place, and situated as many of them are, immediately before the drawing-room windows, where the beds can be looked down upon from the terrace walk, we recollect of nothing which struck us as so singularly effective and ornamental.

A word as to their culture. Many complaints are made in reference to the vegetation of the seeds; but, in nine cases out of ten, it arises solely from the want of knowledge by the cultivator. They are either planted too early, before the ground is warm, or they are covered so deep that the young plants have no strength to get through the soil. The best way is to sow the delicate and fine seeds in a pot or frame, and transplant them into the open ground in June: the hardier kinds may be planted during the latter part of May up to the middle of June. Balsams, Asters and Coxcombs, and similar late growers, to have a fine display, should be sown in boxes in April, and afterwards transplanted into the ground in a place where they can be protected from frost, till they get well established, when they may be removed to the border or beds where they are to bloom.

The soil for annuals should be light and well enriched with very old manure or leaf mould: the deeper and better the soil, the finer the growth. Avoid planting too thick, for a few good plants are preferable to a dozen poor ones. Annuals, with the exception of a few sorts, may be planted up to the 20th of June, and afford an abundant bloom.

THE LITERATURE OF GARDENING.

BY WILSON FLAGG.

No. IV. Whateley's Observations on Modern Gardening.

One of the earliest works designed especially to illustrate the principles of English gardening, as landscape gardening was then called, was entitled "Observations on Modern Gardening," written by Mr. Whateley. This work is frequently quoted with approbation by Mr. Alison, in his "Essay on the Principles of Taste;". it is written in an easy and flowing style, and exhibits evidence of a sensitive mind improved by a general acquaintance with the works of nature and art. The author is the advocate of the style of gardening invented by Mr. Brown, and his work may be considered a fine illustration of its general principles. As my design is to furnish an abstract—not a review—of the contents of this and other works of the series, I shall confine myself as nearly as possible to the language of the author.

Gardening, remarks Mr. Whateley, in the perfection in which it has been lately brought in England, is entitled to a place of considerable rank among the liberal arts. It is as superior to landscape painting as a reality to a representation, and being now released from the restraints of regularity, and enlarged beyond the purposes of domestic convenience, the most beautiful, the most simple, the most noble scenes of nature are all within its province. It regulates the disposition and embellishments of a park, a farm, or a riding, no less than of the garden. Its object is to discover and to show all the advantages of the place upon which it is employed, to supply its defects, to correct its faults, and to improve its beauties.

Nature employs but four materials in the composition of her scenes, *ground*, *wood*, *water*, and *rocks*. The cultivation of nature has introduced a fifth species—the *buildings* requisite for the accommodation of man. Every landscape is composed of these parts only; every beauty in a landscape depends on the application of their several varieties. The

shape of *ground* must be either a *convex*, a *concave*, or a *plane:* in terms less technical, called a *swell*, a *hollow*, and a *level.* By the combinations of these are formed all the irregularities of which ground is capable; and the beauty of it depends on the degrees and the proportions in which they are blended. Levels were generally preferred in the old gardens—in the modern style, uneven surfaces are chosen. A large, dead flat raises no other idea than that of satiety: the eye finds no amusement, no repose on such a level; it is fatigued unless soon relieved by an adequate termination. A very wide plain at the foot of a mountain is less tedious than one of much less compass, surrounded by hillocks. A continued range of the noblest wood, or the finest hill, would not cure the insipidity of a flat. The least deviation from the uniformity of a plain changes its nature: as long as the flat remains, it depends on the objects around for all its beauty; but convex and concave forms are generally pleasing, and the number of degrees and combinations into which they may be cast is infinite. Lines gently curved, which are not parts of any circle; a hollow, sinking but little below a level; a swell, very much flattened at the top, are commonly the most agreeable figures.

In ground that lies beautifully, the concave will generally prevail. There are situations, however, where the convex form would be preferred. A hollow, just below the brow of a hill, reduces it to a narrow ridge, which has a poor, meagre appearance; and an abrupt fall will never seem to join with a concave form immediately above it. Little inequalities in nature are usually well blended together: all lines of separation have, in course of time, been filled up; in made ground, therefore, when they are left open, that ground appears artificial. In every instance, when ground changes its direction, there is a point where the change is effected, and that point should never appear.

Every piece of ground is distinguished by certain properties: it is either tame or bold; gentle or rude; continued or broken; and the prevailing idea ought to pervade every part, so far as to exclude whatever distracts it, and to accommodate

the character of the ground to that of the scene it belongs to. Striking effects, forcible impressions, whatever seems to require effort, disturb the enjoyment of a scene intended only to amuse and to please. Sameness is dull; the purest simplicity can at most render a place composed of large parts placid; the sublimest ideas only make it striking; it is always grave; to enliven it, numbers are wanting. But ground is seldom beautiful or natural without variety, or even without contrast. Variety is always desirable where it can be introduced. An undulating line composed of parts all elegant in themselves, all judiciously contrasted and happily united, but equal to one another, is far from the line of beauty. A long strait line has no variety at all; and a little deviation into a curve is but a trifling amendment.

Of Wood.—Trees and shrubs are of different *shapes*, *greens*, and *growths*. Some thick with branches and foliage, and have almost an *appearance of solidity*, as the beech and the lime. Others, thin of boughs and of leaves, seem *light* and *airy*, as the ash and the poplar.

They may again be divided into those whose *branches begin from the ground*, and those which *shoot up into a stem before their branches begin*. Of those whose branches begin from the ground, some rise in a *conical figure*, as the larch and the holly; some *swell out in the middle of their growth, and diminish at both ends*, as the mountain ash and the lilac; some are *irregular and bushy* from the top to the bottom, as the Red cedar and the Guelder rose.

Some have their base large and others small, forming *slender cones* or *broad cones*, according to the width of their base. The branches of some grow *horizontally*, as the oak; in others they *tend upwards*, as in willows; in others they *fall*, as in the acacia; in others *incline obliquely*, as in many of the firs; in others they *hang directly down*, as in the weeping willow. These, continues the author, are the most obvious distinctions in the shapes of trees and shrubs. The difference between their shades of green are not so considerable.

Some are of a *dark green*, as the horse chestnut and the

yew; some of a *light green*, as the lime and the cornel; some of a *green tinged with brown*, as the red cedar of the United States; some of a *green tinged with white*, as the silver poplar and sage tree; and some of a *green tinged with yellow*, as the ash-leaved maple and the Chinese arborvitæ. The gradations of these colors, from the most humble to the most lofty, have, in certain situations, particular effects, to which the improver will always give his attention.

There are, besides, sometimes in trees, and commonly in shrubs, still more minute varieties, in the turn of the branches, in the form and the size of the foliage, and even the texture of the leaves frequently produces many different appearances. Some have a stiffness, some an agility in their motions; on many is a gloss, very useful at times to enliven a scene, though for some scenes too glittering. To arrange the shrubs and trees so that they may mutually set off the beauties and conceal the blemishes of each other; to aim at no effects which depend on nicety for their success; to attend more to the groups than to the individuals; and to consider the whole as a plantation and not as a collection of plants, are the best general rules for the planting of trees in a landscape.

The author proceeds to treat of all the varieties of grouping which may be observed in what is called a natural wood. Wood, as a general term, comprehends all trees and shrubs in whatever disposition; but it is specifically applied, in a more limited sense, the sense in which we shall now use it.

Every plantation must either be a *wood*, a *grove*, a *clump*, or a *single tree*. A wood is composed of trees and underwood, covering a considerable space. A grove consists of trees without underwood. A clump differs from either only in extent: it may be either close or open; when close it is sometimes called a *thicket;* when open, a *group of trees;* but both are equally clumps, whatever be the shape or situation. The prevailing character of a wood is generally *grandeur*, but the character of a grove is *beauty*. Fine trees are lovely objects: a grove is an assemblage of them, in which every individual loses much of its own peculiar elegance; and whatever it loses is transferred to the superior beauty of the whole.

Though a grove be beautiful as an object, it is besides delightful as a spot to walk or sit in; and the choice and disposition of the trees, for effects within, are important. Mere irregularity alone will not please: strict order is more agreeable than absolute confusion. A regular plantation has a degree of beauty; but it gives no satisfaction, because we know that the same number might be more beautifully arranged.

Clumps differ only in extent from woods if they are close, and from groves, if they are open. They are small woods and small groves, governed by the same principles as the larger. The least clump that can be is of two trees; and the best effect they can have, is that their heads united should appear one large tree.

WATER.—The author, after treating particularly of the formation and arrangement of clumps, arrives to the consideration of *water*, which, he remarks, though not absolutely necessary to a beautiful composition, yet is so capital a feature, that it is always regretted, when wanting. It accommodates itself to every situation; is the most interesting object in a landscape, and the happiest circumstance in a retired recess; captivates the eye at a distance, invites approach, and is delightful when near. It refreshes an open exposure; it animates a shade; cheers the dreariness of a waste, and enriches the most crowded view. It may spread in a calm expanse to sooth the tranquillity of a peaceful scene, or, hurrying along a devious course, add splendor to a gay and extravagance to a romantic situation. A gently murmuring rill, clear and shallow, just gurgling and dimpling, suits with solitude and leads to meditation: a brisker current, that wantons in little eddies over a bright sandy bottom, or bubbles among pebbles, spreads cheerfulness all around; but the roar and rage of a torrent, its force, its violence, its impetuosity, tend to inspire terror, which is nearly allied to sublimity.

All water is either *running* or *stagnated:* when stagnated, it forms a *lake* or a *pool*, which differs only in extent; and a *pool* and a *pond* are the same. Running waters are either a *rivulet*, a *river*, or a *rill;* and these differ only in breadth.

The characteristic property of running water is progress; that of stagnated, is *circuity:* the one stretches into length—the other spreads over space. A river is never more beautiful than when it is lost in a wood, or retires behind a hill from the view. Space is essential to a lake; it may spread to any extent,—and the mind, always pleased to expand itself, delights even in its vastness. A lake cannot be too large as a subject of description, or of contemplation; but the eye receives but little satisfaction when it has not a form on which to rest: the ocean itself hardly atones, by all its grandeur, for its infinity; and a prospect of it, therefore, is always most agreeable when in some part, at no great distance, a reach of shore, a promontory, or an island, reduces the immensity into shape.

After a variety of observations on the different appearances of water, as seen in nature, the author concludes by giving directions for the management of artificial water in parks and pleasure grounds. As they are very nearly the same as may be found repeated after him in almost every treatise on gardening, it is needless to give any extracts from them. It may be simply remarked that, by no other author, is the subject of water, as an ingredient in landscape improvements, more fully or agreeably treated.

Of Rocks.—Rills, rivulets, and cascades abound among rocks; they are natural to the scene; and such scenes commonly require every accompaniment which can be procured for them. Mere rocks, unless they are peculiarly adapted to certain impressions, may surprise, but can hardly please; they are too far removed from common life, too barren and inhospitable, rather desolate than solitary, and more horrid than terrible. Rocks, therefore, must be accompanied by water or by vegetation to render them interesting. Their most distinguishing characters are *dignity*, *terror*, and *fancy:* the expressions of all are constantly wild; and sometimes a rocky scene is only wild, without pretensions to any particular character.

The author proceeds to describe certain places in which the rocks are characterized by dignity, as in Matlock, Bath;

by terror, as at a scene at the New Weir, on the Wye; and of rocks characterized by fancy, as at Dovedale. Speaking of such accompaniments as give intimations of danger, he remarks, that a house placed at the edge of a precipice, any building on the pinnacle of a crag, makes that situation seem formidable, which might otherwise have been unnoticed: a steep, in itself not very remarkable, becomes alarming when a path is carried aslant up the side: a rail on the brow of a perpendicular fall shows that the height is frequented and dangerous; and a common foot-bridge thrown over a cleft between rocks has a still stronger effect. In all these instances the imagination immediately transports the spectator to the spot, and suggests the idea of looking down such a depth: in the last that depth is a chasm, and the situation is directly over it.

Of Buildings.—Buildings were probably first introduced into gardens merely for convenience, to afford refuge from a sudden shower, and shelter against the wind; or, at most, to be seats for a party, or for retirement. They have since been converted into objects; and now the original use is too often forgotten, in the greater purposes to which they are applied: they are considered as objects only; the inside is totally neglected, and a pompous edifice frequently wants a room barely comfortable. But, in a garden, buildings ought to be considered both as beautiful objects and agreeable retreats. As objects, they are designed either to *distinguish*, or to *break*, or to *adorn* the scenes to which they are applied. The author proceeds to mention the kinds of architectural ornaments which are proper in different situations, and condemns a too great ostentation of buildings, either in number, or size and costliness. He does not recommend artificial ruins, but treats of the manner in which the best use may be made of those which are genuine.

Of the General Subject.—The scenes of nature are also affected by the general subject to which they are applied, whether that be a *farm*, a *garden*, a *park*, or a *riding*. These may all indeed be parts of one place; they may border on each other; they may, to a degree, be intermixed; but each

is still a character of such force that, whichever prevails, the propriety of all other characters, and of every species of beauty, must be tried by their conformity to this: and circumstances necessary to one may be inconsistencies in the rest. *Elegance* is the peculiar excellence of a garden; *greatness*, of a park; *simplicity*, of a farm; and *pleasantness*, of a riding. These distinguishing properties will alone exclude from the one many objects which are very acceptable in the others.

Minute beauties generally abound in a garden; they may be frequent in a farm; in both we have an opportunity to observe and examine them; in a park they are below our notice; in a riding they escape it. *Prospects* are agreeable to either of the four general subjects, but not equally necessary to all. In a garden, or in a farm, scenes within themselves are often satisfactory; and in their retired spots an opening would be improper. A park is defective if confined to its enclosure: a perpetual succession of home scenes, though so large an extent wants variety and fine prospects, are circumstances of greatness. A riding has seldom much beauty of its own; it depends on objects without for its pleasantness; if it only leads now and then to a striking point, and is dull all the rest of the way, it will not be much frequented; but very moderate views are sufficient to render its progress agreeable.

The best situation for a house is not that which has the greatest command; a cheerful look-out from the windows is all that the proprietor desires: he is more sensible to the charms of greater prospects, if he sees them only occasionally, and they do not become insipid by being familiar. For the same reason he does not wish for them in every part of his garden, and temporary concealments give them fresh spirit wherever they appear.

The author's remarks that follow, concerning the different styles suitable to a farm and a garden, are very judicious. Though a farm and a garden agree in many particulars, connected with extent, yet in style they are the two extremes. Both, indeed, are subjects of cultivation; but cultivation in the one is *husbandry;* and, in the other, *decoration:* the

former is appropriated to *profit*, the latter to *pleasure*. Fields profusely ornamented do not retain the appearance of a farm; and an apparent attention to produce obliterates the idea of a garden. A park is sometimes not much hurt by being turned to account.

With respect to the means of acquiring experience and taste, the author concludes by remarking:—"The art of gardening is not to be studied in those spots only where it has been exercised; for all together contain but a small proportion of the beauties which nature exhibits; and unless the improver has stored his mind with ideas from the infinite variety of the country at large, he will feel the want of that number which is necessary for choice; he will have none ready to apply to the subject immediately before him, and will be reduced to copy an imitation. But improved places are of singular use to direct the judgment in the choice, and the combination of the beauties of nature. An extensive knowledge of them is to be acquired in the country where they casually occur: discernment of their excellencies, and a taste for the disposition of them, is to be found in places where they have been selected, and arranged with design."

EUROPEAN PARKS, NO. VI.

BY HOWARD DANIELS, ARCHITECT, N. Y.

THE LONDON PARKS.

REGENT'S PARK contains about 450 acres, and is situated on the northwest side of London; it was laid out in 1812, by Mr. James Morgan, from the designs of Mr. Nash, architect, but was not opened to the public until 1838. It was named after George IV., then Prince Regent, who is said to have contemplated building a palace on the northeast side. I have been informed, however, that Mr. Nash reserved the circle now occupied by the Botanic Garden as the site for the proposed palace.

The full extent of this, which is decidedly the finest of the London parks, is nowhere seen, in consequence of the public road crossing it towards the south end, and the circle containing eighteen acres now occupied by the Royal Botanic Garden, the Zoölogical Gardens on the northwest side, and several villas in different parts of the grounds.

The natural surface has several noble undulations, that are admirably adapted to the purpose of a park, but which have not been improved in that skilful manner that I expected in a modern work created in this land of refinement in landscape gardening.

One of the chief features is a long straight walk about a mile in length, forty feet wide, and commencing on the south side opposite Portland Place; it runs entirely across the park, and on an irregular, ascending grade, until it reaches the summit, which is near the north side. From this point it has a gentle descent to the end. On either side of this walk are four rows of trees, which are all elms towards the upper end; but, unfortunately, the character is changed at the lower part by the use of a row of horsechestnuts in front, with three rows of limes at the back. The trees are now from twenty-five to thirty feet in height, rather stunted, and somewhat crowded. This walk has the same fault of running over an irregular surface as mentioned in my previous letters.

The plantations are few, thin, and meagre, being totally destitute of shrubs, bushes, and undergrowth generally, to the manifest injury of the park. On the southwestern side is a fine sheet of water, very irregular in form, with its terminations well covered, and containing several fine islands planted with trees. The water is crossed by neat wire suspension bridges, and its appearance is much enhanced by some fine willows planted along its southern margin, and also by its being in the midst of some fine villas and terraces, from which it receives additional beauty.

On the north side is a monster heap of earth that was removed in forming the lake, and, though planted with trees, it cannot be taken for anything but a *spoil-bank*, by the most superficial observer. Such things, in such places, are per-

fectly unaccountable to me in this country, where are to be found the best landscape gardeners in the world, and in such a park as this, where one would naturally suppose the best talent would be employed.

In this park the comparatively recent principle of allowing the aristocracy to build villas and enclose grounds has been adopted, and several fine villas have been erected, with ample pleasure grounds surrounding them; and, so far as scenic effect is concerned, they may be considered quite an addition to the park.

Around the park is a belt of villas and terraces, (which here means a block or range of splendid residences,) occupying three quarters of the distance, and furnishing many fine views. The remainder of the belt is occupied by the Zoölogical Gardens, which are most decidedly the finest of their kind I ever saw.

The order and keeping of the trees, turf, walks, &c., are as good as could be expected on a wet, heavy, undrained clay subsoil.

The worst faults I find here are the long, straight walk running over undulating ground—the groups of trees are too small and too few, and there is an almost total want of shrubbery.

VICTORIA PARK.

This park lies on the northeast side of London, near Hackney. It was commenced in 1842, and opened in about three years from that time. It contains nearly 300 acres, and is chiefly for the use of the large and crowded districts of Bethnal Green, White Chapel, and Shoreditch. The site is in no way an inviting one, being perfectly flat, and moreover it is severed into two parts by a public road.

The original design for the improvements was very defective, and all the works were executed in the worst and cheapest manner.

A few years since, Mr. Gibson was appointed to the charge of the park, since which a gradual remodelling of it has been going on, which will ultimately make it a very interesting park.

In the plantations are a great variety of ornamental shrubs and low trees, which already produce considerable effect. Common herbaceous plants and annuals are likewise grown in some of the borders, to make them a little gay in the summer. A belt of terrace and villa sites has been lately formed around the park, which, when built up, will be of the greatest use in concealing the many mean looking houses which now show themselves so repulsively.

Nothing, in fact, could be more desirable in the arrangement of public parks like this, than to provide in the plan for an irregular belt of terraces and villas on all but the more open sides, as the directors of the park can then shut out what is disagreeable, and obtain, by judiciously placing those structures, and adapting the plantations to them, and keeping a control over their external forms, a series of most delightful and ornamental accompaniments.

In addition to the five parks already described, the authorities have secured 200 acres in the vicinity of Vauxhall and Lambeth; and commenced improving it; it is called Battersea Park. Another park is projected in the Finsbury district, to contain 300 acres.

A great number of public squares are located in the older parts of the city, many of which are admirably planted and kept. In the suburbs around London are many commons, forming invaluable substitutes for parks. Indeed, a few of them are already as good as parks in respect to affording breathing-places, while they have the further merit of being always open to the public.

A NEW GARDEN ENGINE.

In the cool and moist climate of Great Britain it would scarcely seem necessary to resort to artificial watering. Yet those who are familiar with English works upon gardening will recollect how frequently this operation is recommended in the growth of various crops. The gooseberry, strawberry, &c., among fruits,—the dahlia, aster, hollyhock, &c.,

among flowers, and nearly every description of kitchen garden produce, receive liberal supplies of water during their period of growth. It is the whole secret of successful culture in many instances. The large strawberries which we often hear of, weighing more than an ounce each, could never be produced without liberal irrigation; and the real excellence of many vegetables depends upon the quantity of water with which they are supplied.

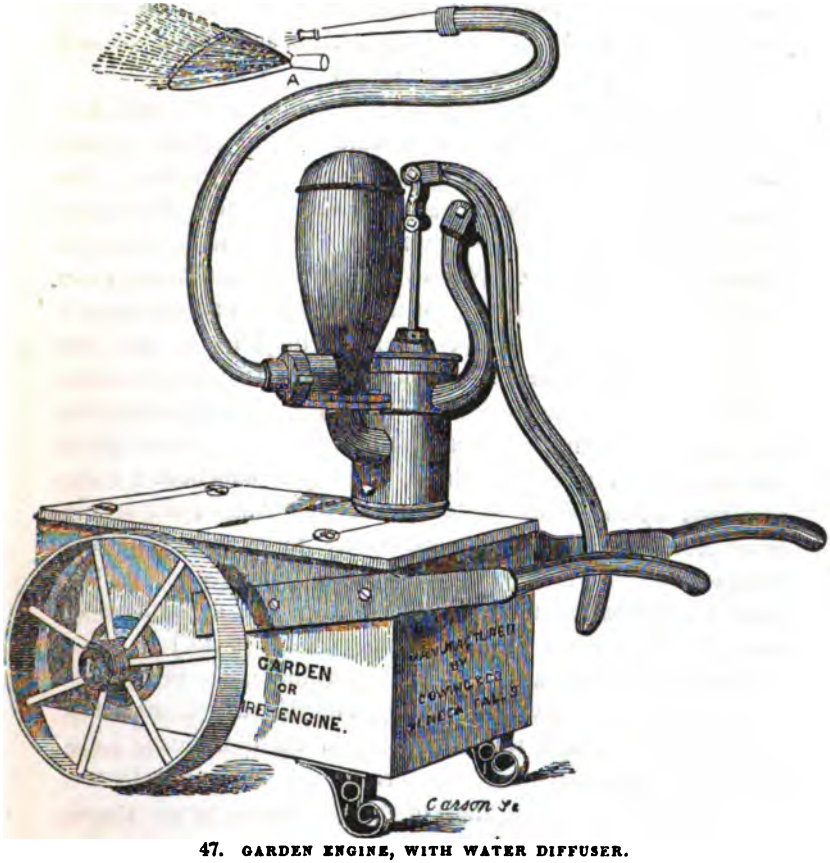
If such artificial watering is so necessary in England, how much more important in our country, and during our hot and dry summers, often without rain for weeks together? Not that it should be indiscriminately done, without reference to the growth or condition of vegetation; but that at proper periods, and for certain crops, it should be far more liberally given than is customary, even among our most skilful cultivators.

It is a common error to apply water just when the plant cannot take it up, and to withhold it when it needs it most: thus newly planted fruit trees, whose roots are partially destroyed in their removal, are often deluged with water till the earth, soddened and soured, is rendered totally unfit for vegetation; but if, through such abuse, they live and grow, no sooner do they get well established and promise an abundant crop, than all artificial aid is withheld—they can then take care of themselves. Thus crop after crop is gathered, and if the tree languishes under such treatment, the locality, or soil, or something else is considered the cause.

Every cultivator who wishes to reap the best results of his labor in our climate, will therefore surely provide the means for watering his plants.

One of the best machines for this purpose is an Engine manufactured by Messrs. Cowing & Co. of New York, as represented in the annexed engraving, (FIG. 17.) We have had one in use two years, and cannot see how we could have done without one so long. It is of large size, yet easily handled, and throws the water with such force as to thoroughly cleanse the foliage, and dislodge insects of all kinds. From the size of the air chamber sufficient power is obtained to enable one man to throw a steady stream of water to the height of fifty feet perpendicularly. "With our newly in-

vented Water Diffuser," say the proprietors, "it defies competition." The Diffuser is a perfect and simple article, and its superiority over the Rose Sprinkler is that it will throw four times the quantity of water a much greater distance, and spread it perfectly even, with less power applied.



47. GARDEN ENGINE, WITH WATER DIFFUSER.

For conservatories and greenhouses it is a most valuable engine, and besides the superiority of the work it can be done in one quarter of the time usually occupied with the common hand syringe.

For syringing trees and shrubs with soap suds or lime water, for the destruction of insects, it is invaluable to every fruit cultivator.

POMOLOGICAL GOSSIP.

MR. SIMPSON'S GRAPES.—Accompanying a note to us, in regard to the growth and ripening of Mr. Simpson's crop, in which he states "the whole experiment, thus far, has been perfectly successful," we received the most acceptable present of two clusters of the grapes, which were as large, finely colored, perfectly ripened, and high flavored, as any we ever tasted. Indeed, we have rarely eaten better grapes at any season of the year. Mr. Simpson has thus furnished the best proof that the fruit is good, his vines showing for themselves their vigorous and healthy growth, as well as the beauty and abundance of the crop. Not even the most doubting in regard to his system can deny that thus far he has accomplished all that he undertook to do, whatever may be his success hereafter. Since receiving our fruit on the 12th of May, Mr. Simpson has, we believe, exhibited some fine specimens before the Massachusetts Horticultural Society, which were admired by all who saw them, and their excellence fully sustained by the Fruit Committee. Referring to our article in a previous number, we have only to remark, that Mr. Simpson will soon furnish us with a full account of the growth and treatment of his vines, since the appearance of his previous paper in our last volume, (XXI. p. 83.)

NEW STRAWBERRIES.—In our last volume, we briefly noticed some of the new English strawberries which attracted particular attention at the Horticultural Exhibitions in London, and obtained numerous prizes for their excellence. Since then we have had most of them under cultivation, and, before the appearance of our next number, hope to have the opportunity of seeing them in bearing, and testing their qualities. The following are the sorts which will fruit in fine condition in our collection:—Sir C. Napier, Admiral Dundas, Sir Harry, Omar Pacha, Crystal Palace, 200 Fold, and Scarlet Nonpareil. They have all wintered exceedingly well, and appear to be hardier in cultivation than the old English varieties, a characteristic which has prevented the growth of

the British Queen, Keen's Seedling, and some other kinds. We shall give a full account of them as soon as the fruiting season is over.

STRAWBERRIES IN CINCINNATI.—The Cincinnati Horticultural Society have lately been engaged in discussing the merits of McAvoy's Seedling strawberry in comparison with Hovey's Seedling, and quite a spirited series of meetings have been held, and majority and minority reports submitted, the former of which was carried, after much discussion. In another page we have printed both of the reports, that our readers, and all who are interested in strawberry culture, may know the views of the leading cultivators of the West in reference to the best varieties.

The discussion and reports were the result of a communication in the Cincinnati *Daily Times*, which we also publish in another page, by Mr. Stoms of that city. It appears by the last proceedings of the society that on the 2d and 9th of June, 1855, two exhibitions of strawberries took place, for the premiums offered for this fruit, and that at both meetings Hovey's Seedling, raised by Mr. James Youtcy and presented by Mr. Stoms, obtained the first prize, in competition with McAvoy's and other kinds. NO REPORT OF THOSE AWARDS WAS EVER PUBLISHED, and it was in consequence of this neglect by the society to do an act of justice, that Mr. Stoms brought up the subject for discussion. The public have now all the facts before them, and can correctly judge whether the one-hundred-dollar prize, given to the McAvoy Superior as a better strawberry than Hovey's Seedling, was really merited or not.

THE BRIGHTON PINE STRAWBERRY.—This new and fine variety, raised by Mr. Scott of Brighton, who was awarded the silver medal of the Massachusetts Horticultural Society last year for fine specimens, is now offered for sale, and amateur cultivators have an opportunity to give it a trial. We think both this and the Jenny Lind fine early varieties, possessing qualities which must render them very popular sorts. They are very hardy, exceedingly vigorous, and abundant bearers.

HARDINESS OF THE CONCORD GRAPE.—Dr. J. A. Warder reported to the Cincinnati Horticultural Society, in March, that "his grape buds were all killed except the Concord." Its hardiness, which is one of its most valuable properties, is thus established throughout the country. The winter has been uncommonly severe in Ohio, and afforded the best of proof of the superior hardiness of the Concord grape. Mr. Thompson, of Delaware, O., writes us that his Catawba and Isabella vines, "twelve years old, of enormous size, have been killed to the ground, as have all the vines of the same kinds in town." The inestimable value of the Concord may thus be conjectured, for while the whole crop of the former may be destroyed in very severe winters, which are likely to occur about every decade of years, the latter bears its full crop. When calculated by the 1000 acres, how great is the value of a perfectly hardy vine.

THE PEAR CROP IN MASSACHUSETTS.—While our friends in the West are lamenting the destruction of entire orchards of peach, plum, and cherry trees, and partial injury to pears, the prospect of the fruit crop in Massachusetts, (excepting peaches,) was never more encouraging. At the date we now write, (May 20,) the pears, cherries, and plums are in full flower in our collection, the former presenting perfect pyramids of bloom, from the ground to the topmost branch, while the peaches show sufficient blossoms for the welfare of the trees. If the weather continues favorable, the crop will be a most abundant one.

PROFITS OF FRUIT CULTURE.—Allow me to correct an error which appears in your last issue, and to do what I may to prevent the spread of what seems to be rather too much of a joke.

In my remarks before the Fruit Growers' Society here, last winter, the latter part of the paragraph is to be understood as simply a pleasantry, directed at those persons who had been informing us of the great prices to be obtained for winter pears, and intended to show the ease with which absurd and erroneous conclusions may be arrived at by correct figures.

Tone, and manner do not appear in a report, and I regret

that any one should have misunderstood me. Those persons who were present, I doubt not, received my meaning correctly.

There are inducements enough to fruit culture without spreading before people delusive hopes of such returns as these, whose very magnificence is a sufficient guaranty of their falsity.—*Yours respectfully*, H. E. HOOKER, *Rochester*, *March 20th*, 1856.

Nothing in the report would lead one to doubt the seriousness of Mr. Hooker's remarks, and, knowing his cautiousness in matters of this kind, his remarks attracted our attention, and led us to notice them. We should have expected such statements from some inexperienced and over-enthusiastic beginners in fruit culture, but from one who knows the expense of cultivation as well as the true market value of fruit, we thought Mr. Hooker had been suddenly seized with a fruit mania, and promised results which could never be realized.

THE AMERICAN AND EUROPEAN LARCHES.

BY WILSON FLAGG.

THE larch is a well-known tree, differing from the pines and firs in the deciduous character of its foliage, which grows in bundles or fascicles, containing a great number of leaves. In general appearance, if its leaves were evergreen it would not greatly differ from the firs, as it is a resinous tree, sends out its branches horizontally from a single shaft, and bears its fruit in cones. This tree is commonly known, in this country, as the *hacmatack*—a name given to it by the aborigines. In favorable situations it often attains the height of sixty feet, though it is familiar to us only as a small tree, twenty or thirty feet in height. The branches of this species are very numerous, quite irregularly disposed, at right angles with the stem, and tapering into very slender terminations, like those of the hemlock. Hence this tree has no inconsiderable share of elegance in its spray, when divested of its leaves.

The American and European larches do not differ very

obviously in their manner of growth, but may still be distinguished by some important differences. The latter has a graceful hanging foliage, like that of some of the spruces, drooping perpendicularly from its horizontal branches, and moving, like silken fringe, with every stirring breeze. The American larch has a shorter foliage, of a less brilliant verdure, and bears it more stiffly upon its branches, resembling in this respect the firs, rather than the spruces. The European species has more of that sort of beauty which springs from graceful and flowing lines; the American species more of that sort which consists in the indications of firmness. I have seen no European larches of great size: but the American tree, as it increases in height, loses its formality, and, after having attained the height of thirty feet, seldom exhibits that tapering summit which is always observed in the fir and in the majority of spruces. It differs in another important respect from these two species, inasmuch as it increases in beauty when it departs from its normal shape, while the loss of a single limb is fatal to the beauty of the firs. When it loses a branch, it bears the loss like any other deciduous tree, and it accommodates its future growth to the accident, which often improves its appearance. Of the full grown American larches which I have seen, the majority had lost their spiry form, and sent out lateral branches nearly as large as the trunk, and exhibited a great deal of the sturdy appearance of the oak.

This tree is intimately associated with our ideas of romantic and mountain scenery. Gilpin remarks of the European species: "It claims the Alps and the Appenines for its native country, where it thrives in higher regions of the air than any tree of its consequence is known to do, hanging over rocks and precipices which have never been visited by human feet. Often it is felled by some Alpine peasant, and thrown athwart some yawning chasm, where it affords a tremendous passage from cliff to cliff; while the cataract, roaring many fathoms below, is seen only in surges of rising vapor."

Mr. Downing remarks of the American larch that its form, though "peculiar" and "striking," is "not so finely *pictur-*

esque as that of the European species." Upon what difference he founds this distinction I am unable to determine; though I am willing to confess that I have never yet understood the meaning of our American writers, when they speak of a "*picturesque* tree," and do not believe that this epithet has any determinate signification. It is a word that was never yet defined or used by any two persons in the same way. But it is one of those words which have become immensely popular on account of their vagueness; like certain nostrums, which are in universal use because they have no medical properties at all, and allow every patient to imagine their effects to be just what he fancies they ought to be.

The remarks of Mr. Alison, with regard to the use of the epithet *beautiful*, are equally true when we substitute the word picturesque in the place of it. "Many of the classes of trees have distinct characters; there are, therefore, different compositions which are beautiful in their forms, and in all of them that composition only is beautiful which corresponds to the nature of the expression they have, or of the emotion which they excite. The character, for instance, of the weeping willow is melancholy—of the birch and of the aspen, gaiety; the character of the horsechestnut is solemnity—of the oak, majesty—and of the yew, sadness. In each of these cases, the general form or composition of the parts is altogether different: all of them, however, are beautiful; and were this proportion in point of composition changed—were the weeping willow to assume an equal degree of variety with the oak, or the oak to show an equal degree of uniformity with the weeping willow, we should undoubtedly feel it to be a defect, and conclude that, in this change of form, the beauty of the character and of the composition was lost.

"It is in this manner, accordingly, that we judge of the beauty of individuals in these different classes. All these individuals are not beautiful, and whenever they appear to be beautiful, it is when their form adheres perfectly to their character—when no greater degree, either of uniformity or variety, is assumed than suits that peculiar emotion which their expression excites in our minds. An oak, which

wreathes not into vigorous and fantastic branches; a yew, which grows into thin and varied forms; a plane tree, or a horsechestnut, which assumes not a deep and almost solid mass of foliage, appear to us as imperfect and deformed productions. They seem to aim at an expression which they do not reach; and we speak of them accordingly as wanting the beauty, because they want the character, of their class." —*Principles of Taste.*

The larch tends to uniformity in its shape when young, and to variety when it is old; yet the fine pyramidal forms of the young trees and the wreathed and contorted growth of the old trees are equally characteristic. I regret that this tree has not been more extensively planted, especially in rude scenery, with which its character is allied, and on high and gravelly soils, which are congenial to its habits. But it is not objectionable as an ornamental tree, for our enclosures or the road-side, though its appropriate situations are those rocky hills, so common on our coast, where the juniper and the barberry seem to contend, on nearly equal terms, for the sovereignty of the domain. If I were obliged to decide which of the two species ought to be preferred, I would choose the American tree, because the most noble larches which I have seen are of this species.

The foliage of the American larch is of a light green, with a bluish tinge, turning to a yellowish brown in November, previous to its fall. One of the minor beauties of this tree consists of the bright red or crimson cones, which appear in June, resembling clusters of beautiful fruit. The larch is greatly preferable to any of the firs or spruces for the enclosures of our dwellings, because its foliage is deciduous, and falls from the tree when it is no longer wanted for purposes of shade. Whatever may be said in favor of evergreens as winter ornaments to the landscape, and as screens for the northern boundaries of an estate, they are almost without exception inferior, to be planted near our windows, to any tree with deciduous foliage. Let us even restore to their ancient places, in front of our houses, the Lombardy poplars, which, in compensation for their unsightly appearance in

winter, will, when in leaf, send healthful and spicy odors into our windows, and make pleasant rustling murmurs in the summer breeze, rather than to plant any more evergreens in these situations, to hide the sun from us in winter, and annoy our sight with their brown and rusty appearance at the time when all other trees are clad in brilliant verdure.

The larch is a northern tree, extending from the southern part of the New England States to Hudson's Bay. In Massachusetts it is found chiefly in low swamps, as if it naturally sought the coldest situations. It is in its perfection in the latitude of Montreal, and large quantities of it are found in the State of Maine. The timber of this tree is of the highest value, not surpassed by that of the oak for ship-building, being very heavy, tough, and close-grained, and almost unequalled in durability. It has likewise the singular quality of being very difficult of combustion. This tree deserves to be extensively planted for timber, on account of the rapidity of its growth, and its ability to thrive well on the thinnest and most unprofitable soils. No tree could be more successfully reared on those barren hills which are so common in Massachusetts, and which, at present, are useless for tillage and unprofitable for pasture. The European species is considered preferable for this purpose, on account of its more rapid growth compared with the other, and its equally valuable timber.

FRUITING NECTARINES OUT OF DOORS.

BY PROF. CHAS. G. PAGE, M. D., WASHINGTON, D. C.

THE nectarine tree is very common in this region, but the fruit is extremely rare. I have watched great numbers of trees for sixteen years, and I have never yet seen upon them one ripe fruit. They bloom profusely, set the fruit most promisingly, but, as soon as it attains the size of a nutmeg, the whole drop, each one containing from one to five eggs of the curculio. Some years since, I found an isolated tree on a dry hillock in the centre of a dense swamp in Virginia, and

even there the curculio destroyed every fruit year after year. For the purpose of ascertaining the character of the fruit, I selected a fruitful limb and covered it with what is commonly called mosquito netting. The fruit formed abundantly, and had attained a fine size by the time all the uncovered fruit had dropped from the tree. I visited the tree about twice a week, until one morning when I discovered the curculio puncture on several of the nectarines. On removing the net I found every fruit punctured with one to four holes, and, entangled in the net, I found one curculio. The wind, in rocking the tree, had made a very small opening in the net, about half an inch in diameter, and the insidious enemy had found his way through it. Last year I resolved to try a thorough experiment of protection by this kind of gauze. I selected a bearing tree about ten feet high, and covered it with a frame or cage of this material. The frame was triangular, and firmly braced against the force of the winds. The whole head of the tree was carefully covered in at top, bottom, and on three sides. Despite my care, one curculio crept in somewhere, but he was soon detected. As it was, this little tree ripened two hundred nectarines. The net was removed about two weeks before the time of ripening, and presented the rare and beautiful spectacle of a young nectarine tree laden with fruit in the open air. The whole expense of the frame was three dollars and a half, and it is good for another year. Wire gauze would be much more durable and perhaps more profitable.

FLORICULTURAL AND BOTANICAL NOTICES.

SALVIA PORPHYRA'NTHA.—This is the name of a new and very free flowering Salvia, introduced last season. It approaches in habit the coccinea, but with much handsomer foliage, and deeper colored flowers. It grows from twelve to fifteen inches high, with ascending stems branched at the base, and terminal spikes of deep crimson scarlet flowers. It

is a most abundant bloomer, commencing early in June, and continuing till fall. As a bedding plant it is one of the best of the Salvias. It first flowered in the Museum of Paris. where it was raised from seeds. Its native country is not known.

NEW VERBENAS.—Several new verbenas are offered for sale the present season. Mr. G. C. Thorburn, of Newark, N. J., has the following, which are highly praised :—

King of Scarlets—fiery scarlet, a most brilliant color, with fine lemon eye.

Kurtz's Defiance—fine rosy white, each flower as large as half a dollar.

Brilliant de Vaise—fine crimson scarlet, white eye.

Empress of France—salmon pink, deep crimson centre, flowers large and fine.

Sarah, (Garrard)—finely striped white and lavender, in the way of Mad. Lemounier.

Ultramarine, (Wardwell)—splendid entire blue.

Messrs. Hovey & Co. offer the following, all of which are fine, but especially the first two :—

Eva Corinne—rose, shaded with crimson, and bold white eye, immense globular truss.

Cærulean Orb—the best blue yet seen.

Morning Star—peach pink, very large truss and superb habit.

Mrs. Hovey—pure white, strong habit, immense bloomer, and highly fragrant.

Rosy Light—deep rose, with rich ruby eye.

Hiawatha—dark violet purple, with black eye, very large truss, and vigorous habit.

308. CLERODE'NDRON FŒ'TIDUM *Bunge.* FETID CLERODENDRON. (Verbenaceæ.) China.

A half hardy or greenhouse plant; growing two feet high: with pink flowers; appearing in spring; increased by cuttings; grown in rich light soil. Bot. Mag., 1855, pl. 4860

A most charming species, found by Mr. Fortune in China, and so hardy as to stand the winters near London unharmed. All the other species require the temperature of the hothouse to grow them in perfection. This flourishes finely in the

312. WEIGE'LIA AMA'BILIS *Planch.* WRINKLE-LEAVED WEIGELIA. (Caprifoliaceæ.) China.

A hardy shrub; growing three to four feet high; with rose-colored flowers; appearing in June; increased by layers; grown in good rich soil. Bot. Mag., 1856, pl. 4693.

The Weigèlia rosea has taken the highest rank among our hardy shrubs; indeed, few, if any, possess greater claims upon our attention, and, as soon as it becomes better known, will be found in every collection of fine shrubs. The W. amábilis greatly resembles it; the principal difference being in the size and reticulation of the leaves, and in the undulated and crenate lobes of the corolla—distinctions just sufficient to render it different without lessening its beauty—perhaps increasing it, for, to judge from the plate before us, the reticulation of its leaves renders it neater in its general aspect than the W. rósea. It is quite hardy. (*Bot. Mag.*, Jan.)

OUR ORNAMENTAL TREES.

BY THE EDITOR.

4. THE CUCUMBER TREE, (MAGNOLIA ACUMINATA, *L.*)

AMONG all the ornamental trees yet known, either native or exotic, none can vie with the Magnolias. Stately in habit, magnificent in foliage, and splendid in flowers, they surpass all others. Yet, notwithstanding their great merits, they are rarely seen under cultivation. An impression seems to have prevailed that they were not perfectly hardy, were impatient of removal, and difficult to procure; but these were mistaken notions. They have, however, prevented their general introduction into our plantations, and trees of any size are rarely to be found. In England, where they were first introduced upwards of a hundred years ago, they are extensively sought after, and everywhere planted. At Syon House and White Knights there are trees upwards of sixty feet high.

Michaux, who had the best of facilities for appreciating the Magnolias, considers the Cucumber tree (FIG. 18) "a beautiful vegetable, equal in height and diameter to the Large-flowered

Magnolia," (M. grandiflòra.) It is found in various localities, from the Niagara River, lat. 44°, which appears to be its northern limit, to the interior of Georgia, and abounds along

18. THE CUCUMBER TREE.

the whole mountainous tract of the Alleghanies, a distance of 900 miles. The situations peculiarly adapted to its growth are the declivities of mountains, narrow valleys, and steep banks of rivers, where the atmosphere is constantly refreshed

with moisture. Westward it is found in Tennessee, but is never seen within two hundred miles of the Atlantic coast.

The Cucumber tree attains the height of eighty feet, with a trunk three to four feet in diameter. Its growth is perfectly straight and erect, and its head ample and symmetrically shaped. The leaves are six to seven inches long, and three to four broad, oval, entire, and very sharply pointed; on young trees they are considerably larger. The flowers, which are five or six inches in diameter, are bluish, and sometimes white, with a tint of yellow; they are slightly fragrant, and abundantly produced on every branch. The cones or fruit are three inches long, and eight or ten inches in diameter, little concave on one side, and, when green, resemble a cucumber, from whence its name: the seeds are rose colored, and, when ripe, are suspended from the cone by a long white thread. It does not bloom until ten or twelve years old.

Michaux remarks that the Cucumber tree will not flourish on the seaboard, where the summers are hot and dry; but this is an error, as we have seen fine specimens at the Cambridge Botanic Garden, at Flushing, (L. Island,) and other places; and in the old Bartram Garden, at Philadelphia, there are trees ninety feet high. No doubt they grow more rapidly in cool and mountainous localities, but they flourish as well as many other trees, and grow with equal rapidity. In our grounds it exceeds in size the Rock maple, of the same age. It was discovered by Bartram, and sent by him to Peter Collamore in 1736.

The M. acuminata thrives best in a deep mellow and rather moist soil; though perfectly hardy, it sometimes suffers if the situation is wet and the roots soddened with water in winter. It may be planted in any place, and in any good soil if well drained, and it will attain a large size.

There is no reason why this tree should not be readily produced. It grows freely from seeds or from layers. Seeds produce the best specimens, though they flower sooner from layers. The seeds should be sown in boxes soon after they are ripe, and have the protection of a greenhouse or frame,

when the young plants will make their appearance early in the following spring. The second year they should be removed into nursery rows, where they will soon become handsome specimens.

As an ornamental tree, nothing can be more magnificent than the M. acuminata. Its tall, straight stem, and regular-branched, umbrella-shaped head; its long, deep green foliage, garnished with its numerous large white flowers; its cucumber-like cones and its rose-colored seeds, all combine to render it one of the most desirable as well as the most beautiful of trees. It is just the tree, in its symmetrical proportions, for planting on the lawn, or near the house, where it harmonizes with the architectural expression of the building.

Monthly Gossip.

The following communication by Mr. Stoms appeared in one of the Cincinnati papers, in answer to one by Mr. Longworth, and as it very justly shows the condition of the strawberry culture around that city, we copy it entire:—

MR. LONGWORTH ON STRAWBERRIES.—Messrs. Editors: In the Times of Thursday evening, there is a very singular communication from Nicholas Longworth, Esq., on the subject of "strawberries and grapes." In that article he plays out the character of the facetious old gentleman in gallant style; though, like his imperial namesake, (the Czar), is a little overbearing in his manner of doing it. As usual, he lugs in "Linnæus and the illiterate market gardener," for the edification and infinite gratification of the "green ones," not familiar with his lucid and unique style of correspondence.

There are two or three assertions and assumptions of Mr. L. not warranted by facts altogether, and these I propose to notice and correct. He says, "Many years have passed since we threw aside Hovey's Seedling strawberry, because nine tenths of the berries are of small size, and the fruit not of superior quality."

What WE? Do you mean to say WE, Mr. Longworth?—or WE, the market gardeners, cultivators, &c., round and about Cincinnati? If the latter, your assumption is fallacious; and if the former, it may be accounted for, perhaps, because the "Prolific" and "Superior" are your especial *bantlings*.

I venture the assertion that there are fifty acres of "Hovey's Seedling" in cultivation in this vicinity, to one acre of the "Superior" and "Prolific;" and that there are fifty bushels of the former bought and sold in our market,

to every one bushel of the "Superior" and "Prolific." So these facts would seem to knock the gauze off of the "throwing aside," etc., by Mr. L., of the "Hovey."

"Nine tenths of the berries (Hovey's) are of small size," says our friend. He is forgetful. Every member of the Horticultural Society knows, or ought to know, that in *every contest*, last season, between the "Hoveys" on one side, and the "Superior" and "Prolific" on the other, that the former came off victorious, and was awarded *all* the premiums. Setting aside "Linnæus," the "illiterate market gardener," and all the "spirit rappers" with which Mr. L. is usually haunted, this would seem a strange infatuation in the horticultural committee in their award to the "Hovey" berry. Had Mr. Longworth passed through our markets and attended our horticultural exhibitions last June, he would hardly have been guilty of such unwarrantable assertions as he has made in reference to "Hovey's Seedling."

Mr. Longworth further says: "There is no pistillate equal to the Superior—no hermaphrodite of a tenth part of the value of the Prolific, ever raised in Europe or America." Now this is sheer nonsense. Although the "Superior" and the "Prolific" have been prominently kept before the public by our friend for some six or eight years, yet, save in the hands of a few amateurs, it is nowhere to be found. And why? Simply because they are unsuited to field culture. The plants will not stand our rigid winters, nor our dry, hot summers.

Again, the "Superior" is entirely unfit for a market berry. It is a dull, dead, heavy color—tender, and easily bruised—and hence soon made sour by transportation, and unfit for the table. I never saw but one box or draw of them in market, and they were selling at just two thirds the price of a drawer of "Hoveys," by the side of them. Knowing the sympathies of our horticulturists, hereabouts, being in favor of the Cincinnati kinds, and their prejudice against the "Hovey" berry, it would seem a very strange sort of infatuation to give the premiums to the latter—one third higher price for them in market, and also to cultivate them quite exclusively for our own markets. It is true the "Superior" is most excellent in flavor, and any gentleman prepared to mulch his plants in winter, and to water them in summer, I would unhesitatingly recommend him to grow the "Superior" and "Prolific" for family use. Further, this deponent sayeth not. They are both good berries, and it is not necessary that Mr. Longworth should attempt to elevate the latter by dragging down the former.

The subject of which I treat is to Mr. Longworth the "harp of a thousand strings," upon which he is ever ready to play. But there is one motto to which I propose to call his attention, and that is, to "let justice be done though the heavens fall."

For universal cultivation, Mr. Hovey's berry stands without a rival in this country; and there is an interesting reminiscence wherein one of the votaries of the great "Superior" attempted to appropriate the same for the latter berry. I am proud to say, however, that Mr. Longworth is *not* that man.—William Stoms.

THE RHODE ISLAND GREENING APPLE.—Can any of your readers aid us in some experiments, the object of which is to make the old-fashioned Rhode Island Greening apple tree bear as it did thirty years since.

Of late years, the fruit does not come to maturity, but drops off before it is half grown; the bloom is quite enough, and a great many small apples are found to succeed the bloom—but, by harvest time, they have all dropped off; they seem withered, blighted.

With some of these trees, for two years past, I have tried a weekly application of a weak solution of guano—about a pound of guano to a barrel of water—using the best Peruvian guano.

With other trees, I am in like manner, and for the same two years, using frequent application of wood ashes.

With others of these Greening trees I carted off as much of the earth around their roots as I could, and put in place of it fresh earth, thinking that something might have been drawn from the soil, which a fresh soil would supply.

I trust that if any of your readers have any experience in this matter, they will give us the benefit of it.—*Truly*, A SUBSCRIBER, *Gloucester, Mass., March* 31, 1856.

[The reason why the R. I. Greening does not bear as well now as thirty years ago, is in consequence of the increase of insects—the apple moth—which have now become so numerous and destructive, that it is difficult to procure half a crop of sound fruit. Applying guano, removing the soil and replacing it with fresh, will invigorate the tree, and be of great service to its health and vigor—but the only way to stop the dropping of the fruit, is to get rid of the apple moth, which is a difficult task. Picking up every apple the moment it falls from the tree, and feeding them to the hogs, will in a short time lessen their number, though not wholly eradicate them.—ED.]

PENTLAND'S NEW SEEDLING ROSES.—Mr. James Pentland, of Baltimore, offers for sale two new seedling roses which are stated to be exceedingly beautiful, and very hardy. A colored plate has been forwarded to us, judging from which we should think them decided acquisitions. Messrs. W. C. Wilson and Edward Kurtz of Baltimore, both extensive amateur cultivators, and good judges of flowers, pronounce them "very fine, and quite distinct," and that the "colored plate does not do them justice." Mr. Feast, the well-known raiser of the Queen of the Prairies, also pronounces them "fine and distinct." The Woodland Margaret stood out the past winter in Baltimore, which was an unusually cold one for that climate. If not entirely hardy in our latitude, it would live with a slight protection. The latter variety has bloomed in our collection, and the color is exceedingly brilliant and fine.—ED.

DR. KINNICOTT'S MODE OF UNDERDRAINING IN THE WEST.—We dig a ditch 2½ feet deep, about 18 inches broad, or just so we can work in it, and then, with a *stout, narrow* spade, made on purpose, take out a "spit," (7 inches at top and 4 at bottom,) cleaning with a *scoop hoe*, after trimming the sides of the bottom spit, and then fill in, *compactly*, with straight hazel brush, CORNUS, &c., up to the shoulder. Over this we put a layer of coarse corn stalks, cut up by the ground, and then fill up with earth again. So far as we have *tried it*, this makes an efficient drain. Cost not yet fully ascertained. About 3 rods to the day's work, however, and we pay a dollar per day, and board the ditchers; at least 40 cents per rod, were I to *guess*.

I am glad you like our glorious prairie land. Cordially your friend.—JOHN A. KINNICOTT.

THE WINTER IN OHIO.—The effects of the severe cold have been disastrous here, upon cherry trees especially. Grape buds are generally dead; peach blossom buds wholly so; some trees in bearing also; young trees for planting, good. Some pears badly cut; not a graft of Duchess of Angouleme to be had fit to set.—*Yours*, JNO. A. WARDER, *Cincinnati, O., February* 26, 1856.

Societies.

HARTFORD COUNTY HORTICULTURAL.

Dear Sir—I enclose a list of the officers of the Hartford County Horticultural Society for insertion in your Magazine.—*Yours respectfully*, THOS. R. DUTTON, *Cor. Sec.*

The annual meeting of this society was held on Saturday, April 7th, and the following persons were chosen as officers for the year:—

President—William W. Turner.

Vice Presidents—John M. Niles, Dr. John S. Butler, Henry W. Terry, Hartford; Henry Mygatt, Farmington; Charles L. Porter, East Hartford; Noah W. Stanley, New Britain; Norman Porter, Berlin; E. A. Holcomb, Granby; Salmon Lyman, Manchester; S. D. Case, Canton, and Dr. H. A. Grant, Enfield.

Recording Secretary—Dr. Gurdon W. Russell.

Corresponding Secretary—Thomas R. Dutton.

Treasurer—Peter D. Stillman.

Auditor—H. L. Bidwell.

Standing Committee—Joseph Winship, George Beach, Jr., John H. Goodwin, H. L. Bidwell. Henry Affleck, Daniel S. Dewey, Dr. George B. Hawley, George Affleck, Charles T. Webster, H. D. Wells, William F. Tuttle, E. A. Whiting.

NEW YORK HORTICULTURAL.

The following are the officers of this society for the year 1856:—

President—John Groshon.

Vice Presidents—Abraham A. Leggett, Archibald Russell, Caleb F. Lindsley, H. M. Schieffelin, Theodore Banks.

Treasurer—Dr. James Knight.

Recording Secretary—Peter B. Mead.

Corresponding Secretary—F. W. Tomkins.

Librarian—James Cheetham.

Library Committee—Peter B. Mead, Andrew Reid.

Finance Committee—Caleb F. Lindsley, F. W. Tomkins, Francis Speir.

Premium Committee—Charles More, Isaac Buchanan.

Fruit Committee—Peter B. Mead, William S. Carpenter, John Suttle.

Committee on Flowers and Plants—Thomas Hogg, Thomas Netterville, John S. Burgess.

Committee on Vegetables—William Cranstoun, Alfred Bridgeman, Peter Henderson.

Committee on Seeds—John Groshon, Caleb F. Lindsley, Dr. Jas. Knight.

CINCINNATI HORTICULTURAL.

We copy the following official report of the doings of this Society from the Cincinnati papers:—

The society met at the Hall, on Fourth Street, March 22, the president, F. G. Cary, in the chair; G. Graham, secretary. The minutes of the last meeting were read and approved.

The reports on the strawberry having been made the special order for this day, the subject, on motion, was taken up, which was carried.

Mr. Orange then moved that the whole subject be laid on the table.

At the request of Mr. Hatch, the motion made by Mr. Orange was withdrawn, when Mr. Hatch offered the following resolution:—

"*Resolved*, That the opinion heretofore entertained by this society, as to the excellence of the strawberry known as McAvoy's Superior, remains unchanged, it having been fully tested as a garden fruit, and in this vicinity proved to be delicious and hardy. As a fruit for general field culture and for market, the high price of plants has heretofore prevented its being tested."

The following amendment was then offered by Mr. Greene:—

"Hovey's Seedling, for field culture and market purposes, holding its position as superior to all others tested."

Mr. Greene opposed Mr. Hatch's resolution, and advocated his amendment, intimating that Mr. Hatch was too much of an old fogy and not in favor of progress. Mr. Greene stated, also, that he had not been able to obtain the true plants called McAvoy's Superior and Longworth's Prolific; therefore he preferred Hovey.

Mr. Cary replied to Mr. Greene, in favor of the report of the majority of the committee, and also in favor of McAvoy's Superior and Longworth's

Prolific. One yard square of the two latter plants produced on his ground, last year, more berries than rods of square ground planted with other varieties.

Mr. McWilliams read some remarks in favor of the majority report, and sustained his position as a member of the committee.

Mr. Ernst advocated McAvoy's Superior, and thought the report in favor of it was too tame and did not say enough. He observed that Mr. Ives and Mr. Sleath cultivated the true plants, and their opinions were worth more than those who had been disappointed in getting the genuine plants.

Mr. Ives stated that his cultivation of McAvoy's Superior succeeded admirably by impregnating with the Iowa staminate plant. The McAvoy strawberry was very large and fine, selling to his customers in the city at forty cents per quart, when Hovey's Seedling brought only fifteen cents.

Mr. Sleath stated that the same quantity of McAvoy's plants would produce double as much as the Hovey Seedling on the same quantity of ground.

Mr. Howarth advocated a full impregnation as necessary to a good crop of McAvoy's strawberry.

Mr. Mears warmly advocated the minority report, and was decidedly in favor of Hovey's Seedling. He opened up the whole subject, including the newspaper publications, and sustained all that Mr. Stoms had stated in the Times.

Mr. Stoms also defended himself, and advocated the superiority of the Hovey strawberry over all others, having seen it in the Cincinnati market for the last twenty years.

Mr. Brace was in favor of the former decision of the society—in favor of McAvoy's Superior—and he has seen nothing since that decision to change his opinion. He preferred another crop and the cultivation of both varieties another season before he gave his opinion.

Mr. Orange was anxious to lay the whole subject on the table and there let it rest.

The Secretary advocated the original resolution without the amendment.

The question being then taken on the amendment offered by Mr. Greene, it was carried by the casting vote of the President. The resolution then, as amended, was carried by a large vote.

The society then ordered the reports of the majority and the minority on the strawberry question to be printed with the proceedings.

REPORT ON THE STRAWBERRY.

Mr. President and Gentlemen of the Cincinnati Horticultural Society:

A majority of your committee, to whom was referred the communications of Messrs. A. H. Ernst and William Orange, calling the attention of this society to an article in the Times, of this city, over the signature of Wm. Stoms, in reply to a communication of Nicholas Longworth, Esq., in the same paper, on the subject of strawberries, beg leave to offer the following report, viz.: For size of berries and hardihood of plants they know of no strawberry better than McAvoy's Superior. In prolific qualities it is surpassed by few worthy of cultivation; but their experience, so far as the

good market qualities of strawberries are concerned at the present time, is that there is no rival to Hovey's Seedling, it being, in their opinion, more popular with our gardeners who supply Cincinnati than any other kind—at the same time they hesitate not to say that Hovey's Seedling is not equal to McAvoy's Superior in flavor.

S. S. JACKSON,
EDWARD J. HOOPER,
M. MCWILLIAMS,
R. O. REILY.

MINORITY REPORT.

To the President and Members of the Cincinnati Hort. Soc.:

The Fruit Committee, to whom was referred the communications of Messrs. A. H. Ernst and William Orange, calling the attention of the society to an article in the Times of this city, over the signature of William Stoms, in reply to a communication of N. Longworth, Esq., in the same paper, on the subject of strawberries, having met at the office of Mr. Robert Reily, and after careful investigation, being unable to agree in their decisions, and the majority having made their report containing views contrary to the opinions of the minority, and, as he verily believes, in direct opposition to the settled convictions of the majority of this society. The minority also believes the majority have omitted to notice some of the most important items contained in the communications referred to them, and, therefore, begs leave to offer this minority report. The minority is not unconscious of the very delicate and critical task imposed upon the committee, and feel well apprized of the utter impossibility of reporting upon the merits of the question at issue to the satisfaction of the disagreeing parties. But as a correct public sentiment upon matters coming within our province is of paramount consideration to us as a committee—to this society, which is the sun of a horticultural system, shedding its rays of light with the vividness and impartiality of the great orb of day—the oracle from whence issues precepts that become the ruling principle of thousands, whose eyes and ears are anxiously directed toward us for information upon every point directly or indirectly connected with the production, dissemination or condemnation of the respective fruits that come before us for investigation and report.

The minority of this committee would therefore beg your careful attention to a portion of the testimony which has influenced him in arriving at the conclusion to be found in this report. The gentlemen whose names are introduced are eminent for their skill as cultivators, or their enthusiasm in promoting the science of horticulture; and most of whom have had abundant opportunity to test the fruits under consideration, and their adaptation to a variety of soil, situation and climatic influences, as well as their claims upon an appreciating public for general favor.

TESTIMONY.

In the printed transactions of the Cincinnati Horticultural Society, vol. 1, we find a letter from N. Longworth, Esq., in which he states: "Hovey's Seedling stands unrivalled with us for size, but we have other varieties of nearly equal size, as good bearers, and of finer flavor. But we would highly recommend it (Hovey's Seedling) to all cultivators, whether for family use

or for sale." "If (he continues) Hovey's Seedling can be impregnated by the Alpine Monthly, a cross might be produced, that, with the size and flavor of the one (Hovey) might be united the ever-bearing character of the other (Alpine)." This letter is dated Sept. 10, 1845.

In 1850, Mr. Longworth says, Hovey's Seedling deservedly stands high, as having no equal for size and bearing in general use.—*Hort. Review*, vol. 1, p. 30.

In 1851, Mr. L. says, the Prolific is of much larger average size than Hovey's justly celebrated pistillate seedling.—*Hort. Rev.*, Aug. 1851.

In 1852, Mr. L, says, "the largest strawberries I have ever seen at our horticultural room were Hovey's Seedling, presented by Mr. Jackson, and measured 5⅜ inches."—*Hort. Rev.*, April, 1852.

The Pomological Congress in 1852 place Burr's New Pine on the list for general cultivation.

The American Pomological Society, at their meeting in Boston, September, 1854, recommend for general cultivation Hovey's Seedling Pine, Large Early Scarlet, and Boston Pine staminates.

The Connecticut delegation to the American Pomological Society class as best in forty varieties on trial, among which are the Superior and Prolific, the Boston Pine and Hovey's Seedling.

Samuel Feast, of Baltimore, says: "With me none have excelled Hovey's Seedling for market. Longworth's Prolific and some others may do for fancy varieties."

John C. Jenkins, of Mississippi, near Natchez, says Hovey's Seedling bears well and is deliciously flavored.

B. F. Cutter, of Pelham, N. H., says Hovey's Seedling is the most popular variety there.

John B. Eaton, of Buffalo, says strawberries have been largely cultivated for market. The sorts mostly planted are Hovey's Seedling, Burr's New Pine and Boston Pine.

The Cayuga Horticultural Society, (June exhibition, 1853,) awarded the first premium to Hovey's Seedling, as the best and finest variety. There were thirteen contributors and twenty varieties.

Wm. R. Prince, in 1853, says of Hovey's Seedling: "It seems almost superfluous to describe this very large and splendid crimson variety; it is so large and productive that few will be willing to dispense with it." In a list of six varieties he places Hovey's Seedling for its great size and productiveness.

R. G. Pardee, in the Hort. Review, January, 1852, says: "Hovey's Seedling has borne a heavy crop the second year, after allowing them to run and cover the entire ground."

In August, 1853, he says: "Hovey's Seedling has done nobly; my old bed, now five years old, continues to bear well, and always, since the first year's failure, produces me large, fine fruit, with the largest single specimens—some few kinds excel in the average size and productiveness. There is no fear, I opine, that Hovey's Seedling will ever be discarded by an intelligent amateur."

G. H. Huntsman, of Flushing, N. York, says in 1848: "Burr's New Pine is very productive; fruit large, rich, sweet flavor."

In 1850, I think, he says: "Burr's New Pine and Hovey's Seedling are two of the very best for general cultivation."

In 1852, he says: "The qualities which I consider constituting a perfect strawberry are the following: 1. A vigorous and hardy plant, capable of bearing alike our summer's sun and winter's frost; 2. Productive; 3. Having strong trusses; 4. Fruit uniformly large; 5. Flesh solid, rich and juicy; 6. Color bright, scarlet or crimson—one that will not become dull on exposure. Color may not seem to be of much importance, but as a quality of fruit for market, it becomes a matter of great consideration. If a plant could be produced having the vigor, hardiness, and productiveness of Hovey's Seedling, with the fruit of the British Queen, it would very nearly realize my ideas of a perfect strawberry."

At the meeting of the Fruit Growers' Society of Western New York, July 2, 1855, Burr's New Pine was pronounced the best single sort; McAvoy's Extra Red the worst by a full vote, in the quality of flavor. In a collection of six varieties, Hovey's Seedling was placed by A. Fahnestock, of Syracuse; T. Barry and H. E. Hooker of Rochester; and J. J. Thomas of Macedon. McAvoy's Superior, by H. E. Hooker of Rochester.

The Country Gentleman, in alluding to this meeting, says some forty or fifty varieties of strawberries, embracing all the more celebrated and newer sorts, each in perfectly distinct beds of considerable extent, afforded a rare opportunity for examination. McAvoy's Superior did not afford the satisfaction to the members of the party that the high commendation at the West had led them to expect, the fine flavor it possessed not being combined with a handsome full grown berry. This imperfection was observed at all the different places visited.

Mr. Bateham, of the Ohio Cultivator, says: "We visited Cincinnati with Mr. Barry of Rochester, on the 1st of June, 1855, to see the strawberries. The varieties grown are the same as the last eight or ten years, except the proportion of Hovey's Seedling was greater than formerly; Hovey's Seedling, Iowa and Hudson being the principal, none having adopted the new seedlings. Hovey's is distinguished for its large size and fine color, hence brings the highest price in the market. Of new varieties, we did not find as favorable an opportunity for inspection as we had anticipated, although we visited all the principal nursery establishments, and the gardens of numerous amateur horticulturists for six or eight miles around Cincinnati.

"McAvoy's Superior stands first among the new varieties around Cincinnati, and was awarded the one-hundred dollar premium of the Horticultural Society several years ago. It is a very large berry, averaging quite as large as Hovey's, and of very fine flavor, the plants of strong growth, hardy and productive. Its disadvantages are dullness of color and softness of fruit, rendering it unfit for market purposes.

"At Columbus those grown for market, as well as private use, are Burr's New Pine, Ohio Mammoth, Hovey's, and Early Scarlet."

Mr. Barry says in the Horticulturist of September, 1853: "Hovey's

Seedling has for several years been the British Queen of this country.—Longworth's Prolific is a good bearer, but superior in nothing to some of the older sorts. At Pittsburg the Superior has proved almost a failure in every case where it has been tested."

In the Horticulturist of August, 1854, he says: "Hovey's Seedling is among the best American varieties; the finest flavored is Burr's New Pine; the largest, Hovey's Seedling."

In July, 1855, he says, in his "Notes on Cincinnati," "I had a great desire to see those famed Cincinnati sorts in full bearing on their own ground, and in their greatest excellence. McAvoy's Superior and Longworth's Prolific are the two of greatest note—the great prize-takers—and I felt particularly anxious to see them. I was not so fortunate in finding good collections as I had hoped to be. The nurserymen had sold themselves so close they had but few left to bear, and these afforded no just criterion.—Among the private gardens I found but two where these sorts were well grown, and in one of them the beds were in fine order. The Superior was the principal crop, having a few rows of the Prolific among them, which were young and did not have a full crop. The Superior, as to flavor, would rank second only to Burr's New Pine. I am satisfied that both these varieties are valuable, hardy, productive, and of fine flavor. I took several occasions to visit the market; found immense supplies of Iowa, Hudson, and Hovey's Seedling—the last named were in all cases the best, and sold at 25 cents a quart; the other at 15 cents. The growers who supply the market informed us that the Superior would prove too tender for market, and would not be extensively grown."

Again, in September, 1855, Mr. Barry says: "Longworth's Prolific and McAvoy's Superior, of which we had good beds in fine order for a fair trial, have both turned out poorly. The crop has been light, and the berries of both imperfectly filled out—this, by the by, is a general failing of all the Cincinnati varieties."

In the March number of the Horticulturist, 1855, Mr. Barry publishes a list of fruits recommended by several States for general cultivation, in which we find Hovey's Seedling recommended by Ohio, Indiana, Mississippi, Missouri, Massachusetts, New Jersey, Maine, Delaware, Connecticut, New York, and Canada West. McAvoy's Superior, by Ohio and Indiana.

In 1851, the Editor of the Horticultural Review says: "It should be recollected that Hovey's Seedling is still assumed as the standard of *good* in flavor."

At the June exhibition Hovey's Seedling was in all the principal collections, and the editor remarks: "Among P. Outcalt's collection, were Willey, Jenny, Hovey, Rival Hudson, Monmouth and New Pine, as well as No. 12, (the Superior,) and one obstinate fellow insisted that the New Pine was superior to all in flavor."

A writer who flourishes over the signature of "Fragaria Occidentalis," in the Horticultural Review of September, 1853, says: "As the standard of comparison, if my recollection serves, our committee has always assumed Hovey's Seedling as the criterion in their decisions."

And again: "Fear not, Mr. Hovey, your own favorite, with all its faults, has a world-wide celebrity, and beauty enough to carry it through great opposition. It has and will prevail as widely as any strawberry can ever expect to prevail."

In the Patent Office Report for 1854, we find a statement of the fruits grown in Ohio, made by our fellow citizens Messrs. A. H. Ernst, John A. Warder, and Robert Buchanan, addressed to the American Pomological Society, at their meeting in Boston, September, 1854, in which they say of strawberries, that from five thousand to six thousand bushels are in some seasons in the Cincinnati market; that the most popular varieties at present are Burr's New Pine, Hovey's Seedling, Extra Red, Hudson, Jenny's Seedling, Longworth's Prolific, McAvoy's Superior, Necked Pine and No. 1.

William Saunders, of Philadelphia, in the March number of the Horticulturist, 1856, in his calendar of operations in regard to strawberries, says: "After all, it is a question whether any variety can excel Hovey's Seedling for general purposes."

In concluding the testimony we copy the published statement of the crop of John C. Youtcy, of Campbell County, Kentucky, as it appeared in the Horticulturist of July, 1855, as exhibiting the comparative productiveness and profitableness of the three varieties mostly grown for this market:— "Two acres of Washington, thirty bushels per acre, sixty bushels, average $7, or $420; three acres of Hudson, thirty-four bushels per acre, one hundred and twenty bushels, average $5.20, or $530; five acres Washington and Hudson, one hundred and sixty-two bushels, $950; five acres of Hovey's Seedling, thirty-five and two fifths per acre, one hundred and seventy-eight bushels, average $7.08, $1260."

The minority of your committee feel conscious that additional testimony is unnecessary to convince any reflecting mind that the subject of strawberries, and the best varieties for general cultivation, has engaged the attention of horticulturists in every part of our Union for several years past; and in reviewing the testimony which we have here presented you cannot but have observed a concurrence in the sentiment that McAvoy's Superior, from its dullness of color and softness of berry, cannot with propriety be recommended as a market fruit, while the delicious flavor it possesses is admitted by all who have proved it to be second only to Burr's New Pine, while by some it is claimed superior to all others, and from the testimony of Messrs. Barry and Bateham, who visited Cincinnati last June expressly to see these far-famed varieties—the Superior and the Prolific—that they are no where to be found except in the hands of a few amateurs; Hovey's Seedling being the largest, handsomest, highest priced and more generally cultivated for market than any other variety. It will also be observed that an equal area of Hovey's Seedling produced ten per cent. larger crops than the Hudson and Iowa, and sold in the market for thirty per cent. higher prices than these varieties, with all the advantages of the early maturity of the Iowa, and the consequent high price paid for the first fruit of the season.

The minority of your committee are also of opinion that there are many varieties of strawberries more hardy and infinitely more productive than the

Superior, and which are well worthy of cultivation; while for size it is not superior if equal to Hovey's Seedling, which excels the McAvoy in the beauty of its color, and its ability to retain its fresh appearance for several hours after being gathered, as well as its firmness in transportation.

We also believe Mr. Ernst does manifest injustice (in his communication) to Mr. Stoms, in charging him with implicating the committee who awarded the one-hundred-dollar premium to McAvoy's Superior as "imposing upon the society, and the society upon the public." That committee doubtless acted in good faith in the discharge of their duty.

But if our subsequent experience and more familiar acquaintance with McAvoy's Superior, under a variety of circumstances and in different localities, have convinced us that the committee was premature in making the award to it as a berry superior in all respects to Hovey's Seedling, we can be under no obligations to sustain that decision, even by remaining silent on the question, much less guilty of bringing a charge against the committee for "imposing upon the society, and the society for imposing upon the public," by daring to publish the results of our enlarged experience, but, upon the other hand, should have been commended for taking the very first opportunity to spread upon the wings of the wind the discovery of our errors, so that "all creation and the rest of mankind" might profit thereby.

Finally, in view of all the testimony published and unpublished within our reach, we are constrained to say that Mr. Longworth greatly errs in his condemnation of Hovey's Seedling, and has evidently forgotten his "early love;" also, that he overrates the excellencies of both the Superior and the Prolific, and that such statement, coming from a gentleman of his elevated position in community and in this society, is calculated to mislead the purchaser in making his selections. And, while we sincerely regret the severity of Mr. Stoms' article, we can but condemn the occasion that gave rise to it, and most ardently wish an amicable adjustment of the differences between the parties may be made, and a proper correction of the statements through the same medium by which they have gone to the public. All of which is respectfully submitted, &c. W. E. Mears,

Minority of Fruit Committee Cin. Hort. Soc.

Massachusetts Horticultural Society.

Saturday, Feb. 2, 1856. *Exhibited.*—From M. P. Wilder, Evers & Bock, and Galvin & Hogan, collections of cut flowers of camellias.

PRIZES AWARDED FOR CAMELLIAS.

For the best ten flowers, to Galvin & Hogan, $8.

For the second best, to M. P. Wilder, $6.

Gratuity of $4 to Galvin & Hogan.

Feb. 9. *Exhibited.*—From Evers & Bock, a variety of heaths, epacris, correæas, &c.

GRATUITIES AWARDED.

To Evers & Bock, $3.

To Evers & Bock, for polyanthuses exhibited March 15, $2.

To James Nugent, for exhibition of seedling heaths, &c., $2.

April 5. *Exhibited.*—From M. P. Wilder, a collection of seedling camellias and azaleas, some of them fine. From P. Barnes, a fine specimen of Tropæolum tricolorum. From C. F. Jones, orchidaceous plants in fine bloom.

From Hovey & Co., their seedling verbenas, Eva Corinne, Cærulean Orb, and Morning Star—all fine. New seedling striped petunia, Glory of America. A new seedling lantana, (picta superba,) and roses. Also, a seedling camellia, decidedly new, novel and beautiful, the flowers being singularly and strikingly diversified in color: some of the flowers were pure white, others blush striped and marked with carmine, and others fine deep peach or carmine—elegantly shaped petals—foliage and habit good.

GRATUITIES AWARDED.

To Hovey & Co., for roses and lantana, $2.

To P. Barnes, for Tropæolum, $1.

To C. F. Jones, for orchids, $3.

May 10. *Exhibited.*—A fine display of hyacinths from R. M. Copeland.

PRIZE AWARDED.

To R. M. Copeland, for hyacinths, $5.

OPENING OF THE HALL. *Saturday, May* 17.—The first exhibition of the season, in the Society's hall, was held to-day, and the display was one of the finest recently made. The plants in pots were numerous, and, with some exceptions, finely grown. The fruit was also excellent, particularly the grapes of Mr. Simpson, and the peaches of Mr. Holbrook. The following is from the Chairman's report:—

From Hovey & Co., 38 plants in pots, comprising eleven calceolarias; six new fuchsias, among which were Figaro, a most beautiful specimen, over six feet high and loaded with flowers; F. revolùta, of nearly the same size, and an equally handsome plant; and four others, very fine and choice varieties;—Azalea variegàta, a superb plant in full bloom; four gloxinias, including the new Wilsòni; Lantana picta superba, a new and fine seedling, &c.

From M. P. Wilder, 25 plants in pots, among which were three seedling azaleas, one of which was conspicuous and beautiful, being pure white, streaked with brick red; fine and well grown specimens of A. exquisita and variegàta; Rhyncospermum jasminòides, a beautiful and well grown specimen, loaded with its fragrant white flowers; Bignònia picta; Puya Alstenstènii, covered with its red spike of bloom; Henfrèya scándens, and a jasmine from New Zealand, which may prove an acquisition to our stock of tender climbing plants; also, seven hardy azaleas, &c.

From W. C. Strong, 28 pots of fuchsias, and cut specimens, embracing in all forty varieties; it is impossible, in words, to give an idea of the beauty of some of these specimens—they were truly magnificent, and such a display of this beautiful flower has but rarely been seen in this city.

From E. S. Rand, Jr., 41 plants, including a fine specimen of the old but pretty Anomatheca, and another of the Clematis lanuginòsa, from China,

new and very beautiful, both in its leaf and flower—it is by far the most showy of the tribe, and, should it prove hardy, it will be a great acquisition.

From F. D. Halley, Watertown, eight calceolarias, most beautiful and well grown specimens in profuse bloom; ten plants of pelargoniums, also well grown and in full flower; seven ericas, including Cavendishii in full flower, very fine.

Collections of plants were also contributed by P. Barnes, B. Dennis, A. Bowditch & Son, and others.

Cut flowers, bouquets, &c., in profusion, were exhibited from M. B. Williams, Miss Mary R. Richards, J. Nugent, W. J. Underwood, P. Barnes, R. M. Copeland, T. G. Whytal, Curtis & Cobb, Thos. Page, and others.

AWARD OF PREMIUMS AND GRATUITIES.

GREENHOUSE PLANTS. For the best display, to Hovey & Co., $15.
For the second best, to M. P. Wilder, $12.
For the third best, to E. S. Rand, Jr., $10.

PELARGONIUMS. For the best six plants, to T. D. Halley, $10.

FUCHSIAS. For the best six, to W. C. Strong, $8.

CALCEOLARIAS. For the best six, to T. D. Halley, $5.
For the second best, to Hovey & Co., $3.
For the third best, to A. Bowditch & Son, $2.

CINERARIAS. For the best six, to Hovey & Co., $4.

HEATHS. For the best six, to T. D. Halley, $6.

CUT FLOWERS. For the best display, to E. S. Rand, Jr., $6.
For the second best, to J. Nugent, $5.
For the third best, to T. Page, $4.
For the fourth best, to M. B. Williams, $3.
For the fifth best, to T. G. Whytal, $2.

HYACINTHS.—For the best display, to R. M. Copeland, $4.

PANSIES. For the best twelve, to P. Barnes, $4.
For the second best, to E. S. Rand, Jr., $3.

GRATUITIES. To E. S. Rand, Jr., for Clematis languinòsa, $2.
To R. M. Copeland, for hyacinths, $2.
To B. Dennis, for plants; to J. Nugent, for bouquets; to Mary R. Richards, for bouquets; to P. Barnes, for flowers; to W. J. Underwood, for pansies; to Curtis & Cobb, for hyacinths, each, $1.

FRUIT.—From M. H. Simpson, White Frontignan, Zinfindal, Chasselas of Fontainbleau, Black Hamburg, Chasselas Musqué, Grizzly Frontignan, and Macready's Early White grapes, all from his vines grown as described in our last number. The grapes were tasted by the Committee, and pronounced exceedingly well flavored. Also, Early York peaches, from trees in pots which bore a crop last September.

From W. C. Strong, Lombardy, Chasselas of Fontainbleau, Chasselas Musqué, and Black Hamburg grapes, grown on Mr. Simpson's plan of a crop in eight months.

From C. F. Jones, nectarines, extra fine. From F. W. Prince, Easter Beurré pears. From C. S. Holbrook, George IV. and Early Crawford peaches, fine. From J. F. Allen, nectarines, extra fine. From H. Vandine, pears.

Horticultural Operations

FOR JUNE.

FRUIT DEPARTMENT.

The month of May has been cool, though free from frost, except in some exposed localities, and all kinds of fruit trees promise a fair crop. Even the peaches, which it was supposed were much injured, show a good amount of bloom. Now that the hurrying work of the season is over, attention should be given to the details of cultivation, and the pruning, disbudding, shortening in, &c., of fruit trees be proceeded with. Thinning the fruit should not be forgotten; as well as attention to mulching trees with heavy crops.

Grape Vines in the earlier houses will soon have their fruit all cut; as soon as this is done give the vines a thorough syringing to clear them of insects, afterwards give abundance of air to fully mature the wood. Vines in the greenhouse will need attention—finish shouldering the bunches; keep the laterals pruned in, and give plenty of air in good weather. Vines in cold houses now just setting their fruit should be kept at a slightly increased temperature for a short time. Allow the laterals to ramble more freely than in plant houses. Look out for mildew and insects, and do not be sparing of sulphur if either are seen.

Fruit Trees budded last fall should be looked after, and those grafted last month should have the matting loosened if growing fast. Now is the time to commence nipping the ends of vigorous shoots to make compact fruitful specimens.

Raspberries should be tied up to stakes, if not already done; clear away the suckers when there are too many, three or five are enough to leave to each hill.

Peach Trees in pots, in the greenhouse or grapery, should now be removed to a sheltered place in the open air.

Strawberry Beds should be cleared of all weeds, and the fruit protected from the earth by straw, tan, hay, or short grass. Water freely if the weather is dry.

Look after Insects, and syringe with oil soap if they attack the trees.

FLOWER DEPARTMENT.

As the garden becomes more attractive with the advance of the season, the conservatory is often neglected. This should not be. If properly looked after it may be always made as attractive in summer as in winter. Now is the season to prune and train the climbers, whether upon the roof or trellises. All the winter flowering kinds should be well cut back, and the others thinned of superfluous wood. Syringe frequently to keep down insects.

Camellias will now have completed their growth and set their flower buds. Let all such be removed to a half shady place in the open air, and before they are arranged let those which need it be repotted.

Azaleas may have the same treatment as the Camellias; if they have made a good growth remove them to the open air, where partially shaded.

Pelargoniums now in full bloom should be shaded from the hot sun. The fancy kinds should be headed down early if fine cuttings are wanted to increase the stock.

Chrysanthemums should now be potted off, selecting the strongest suckers, or plants raised from cuttings.

Cactuses should have a more sunny aspect to make their growth after blooming. Water liberally now.

Euphorbias should now be headed in, and have a good situation in the house, to make a fine growth.

Fuchsias should be shifted into larger pots.

Achimenes and Gloxinias should be repotted.

Ericas and Epacris should be headed in and repotted.

Cinerarias should now be divided and potted, in order to get good strong plants for next year's stock.

Orange and Lemon Trees should be plunged out in the open ground.

Laurustinuses should be repotted, and plunged in a good situation in the open air.

Chinese Primroses should now be increased by cuttings, or raised from seeds.

Monthly Carnations should now be increased by layering the young wood.

All kinds of Plants for next year's blooming, should be headed in and repotted.

FLOWER GARDEN AND SHRUBBERY.

The flower garden will now require much attention; neatness should prevail in every part; not a weed should be seen, every plant should be in the finest condition, and the walks kept clean, smooth, and hard. Annuals will yet require to be set out, and early flowering bulbs taken up, and replaced with bedding plants. Lawns should be mown once a fortnight, and grass edgings kept short and neat. Hedges and Box Edging should be clipt now.

Dahlias should be planted out, selecting a good, rich and deep soil, if fine flowers are wanted.

Gladioluses should be planted.

Tulips, Hyacinths, and other bulbs, should be taken up the last of the month.

Asters, Globes, Balsams, and other annuals, raised in frames, may now be planted out in the borders, or beds where they are to flower.

Hardy Annuals of every kind should be sown for a succession of flowers.

Perennial and Biennial flower seeds should be sown this month.

Hollyhocks, Pæonies, Phloxes, and similar tall growing plants should be tied up to neat stakes. Carnations and pinks should be also tied up as their flower stems extend.

Roses, and other shrubs likely to be infected with insects, should be looked after. Syringe freely with whale oil soap, if the thrips or slug attack them. Do this in season, before they have injured the foliage.

THE DESTRUCTION OF INSECTS.

Nothing so much dampens the ardor or discourages the efforts of the enthusiastic amateur as the horde of insects which prey upon nearly every living tree, shrub, plant, flower or fruit he undertakes to nurture, or bring to perfection. In whatever direction he turns, whether in doors or out doors, in winter or summer, they arrest his attention and challenge his utmost care. The greenhouse, the conservatory, the grapery, and the parlor; the pleasure ground, the flower garden, the orchard, and the kitchen garden, alike have their depredators, whose ravages, unless speedily checked, often destroy the fond hopes and cherished expectations of the industrious cultivator.

When we reflect to how great an extent the various tribes of insects infest our gardens, it is somewhat surprising that more attention has not been given to the study of their habits and characteristics. The changes they undergo and the forms they assume are so various, that even many intelligent persons are wholly unacquainted with some of those whose ravages are the most destructive. It is only through correct information respecting their habits that we can ever expect to successfully combat and subdue them.

Considerable has been written regarding the insects injurious to vegetation, though not in a shape accessible to all. The late Dr. T. W. Harris devoted a greater part of his life to the study of Entomology, and the results of his labors appeared under the auspices of the State, forming a large volume of great value. Had his life been spared we had hoped for a smaller and cheaper book, embracing the same facts in condensed form, which might reach the hands of every cultivator in the country. In New York, Dr. Fitch is performing the same work for that State which Dr. Harris did for ours; and the first report, on the "Noxious, Beneficial and other Insects," was made to the New York State Agricultural Society

last autumn, pursuant to a vote of the State Legislature, and published in an octavo volume of 180 pages. In this report several of the most common and destructive insects are minutely described, their habits detailed, and the best remedies given for preventing their increase and stopping their ravages. The work will be continued, and another portion of it will probably appear the present year. When completed, in connection with the Report by Dr. Harris, it will supply cultivators with the most important information.

It is only by the most careful observation that we can detect all the peculiarities of the numerous insects which infest our trees and plants, and, without knowing them, we may spend useless time in attempting their destruction. Mr. Fitch states that it was, he thinks, "St. Pierre who remarks, that he had made it a point to examine the several insects which made their appearance upon a particular rose bush in his garden, and, at the end of thirty years, he continued to find new kinds which he had never seen upon the bush before." He further remarks, that "however assiduously one may investigate the history of a particular species during the period of its appearance one season, if he returns to the same insect another year, additional traits in its habits continue to be discovered, equal in importance frequently to those first noticed."

The publication of these Reports is preparing the way for the dissemination of that knowledge so much needed, and it is all-important that they should be circulated as extensively as possible; a cheap edition, which might, from its low price, place them in the hands of every cultivator, would be a boon greatly to be desired. We trust that the State Legislatures of Massachusetts and New York, composed as they are, to a considerable extent, of farmers and gentlemen interested in agricultural pursuits, will see that this is accomplished. If it cannot be done by them, then let the Agricultural Department of the Patent Office take it under their charge. A volume embracing the substance of Dr. Harris's and Mr. Fitch's Reports would be worth a cartload of the miserable rubbish which is now circulated far and wide, and furnished at a cost

of more than *a hundred thousand dollars* annually to the country. Mr. Townsend Glover, who is an entomologist of considerable experience, is now at Washington, and, we believe, intends furnishing the future Reports of the Patent Office with the history, habits and character of various destructive insects, illustrated with accurate engravings of them in all their different transformations, and if his researches are included in the volumes, it will give them a value they have not so far obtained. Our only fear is that they will be too comprehensive, and describe but one or two insects annually, which will occupy a life time to include them all, or only the most noxious. It will, however, be the commencement of something better than we have yet had, and perhaps lead eventually to the publication of the Reports we have noticed, or those of similar import.

Without knowing the habits of the insects with which we have to contend, their destruction is greatly lessened, and all efforts are sometimes useless. Take the curculio, for instance: for a long time it was supposed these mischievous rascals were not migratory, or, if so, to but a slight extent; consequently it was recommended by various cultivators to fence them out, and hundreds of plum trees were set out, surrounded with a high board paling, and the ground paved beneath. But, like other prematurely discovered methods, it ended in a failure; they scaled the walls as easily as General Scott's troops scaled the walls of Chapultepec, and were as destructive to the fruits inside as his men were to the poor Mexicans who opposed his onward march.

Take the cankerworm for another. Though so common and very destructive in many localities, yet its habits and transformations are to many persons unknown. Not but a few days since we observed an individual putting a band of tin around the trunks of several trees; we eagerly inquired what was the object of the application; he replied, "to kill the cankerworms:" "but how do you intend to do it," said we, "they are all up on the trees now." "Oh! I know it; it is just what I want; I mean to keep them there"! It occurred to us at the moment that though our readers might

not, many of them, need any information in regard to the destruction of insects, there are others who do, and the conversation led to reflections which induced our present remarks.

The pine tree weevil is another. This little pest, which despoils our plantations of evergreen trees, particularly the splendid Norway spruces, by destroying the terminal shoot, is scarcely known, or, if known, its habits are not familiar. Suddenly the terminal shoot of some favorite Norway spruce or white pine begins to fade and droop, as if scorched by the sun, and the cultivator frequently does not know the cause, and allows the shoot to remain, or, if he cuts it off, he fears to injure the tree by cutting it off low enough: thus the insects are left on the tree, from which they soon emerge to deposit their eggs upon the branches of other trees, thus spreading their devastating ravages. A little knowledge would thus prevent, or at least lessen, the destruction, for if the shoot is cut off, the moment it shows any sign of drooping, several inches below the injury, and immediately burnt, every weevil is destroyed, and further mischief prevented, unless they approach from neighboring trees.

The scale and jumping louse, which infest the pear tree, are but little known. They are very injurious to the tree, and are the only insects which severely prey upon it. The scales suck up the juices of the tree, discolor the bark, and eventually destroy it. Upon the approach of winter, they deposit their eggs, protected by the old dry scale. In May they hatch out, and if, at that time, the trees are washed with whale oil soap, it will completely destroy them. The jumping louse is comparatively a new insect, and few cultivators know anything about it. Its effects are visible in almost every collection, but they are not specially known to be caused by this troublesome louse. Very little is yet known of its habits. But undoubtedly the same application applied for the scale will destroy their eggs, which are laid in the crevices around the bud. Their presence may be known by the fluid which they discharge, which discolors and defiles the foliage and fruit.

These are but a few of the destructive insects which are

common, and of whose habits and transformations but little is generally known. They will serve to show the necessity of a deeper interest in entomological studies by all who are interested in the cultivation of plants, that we may learn the most advantageous period for destroying them. Armed with knowledge, we can combat them with doubly effective force.

THE LITERATURE OF GARDENING.

BY WILSON FLAGG.

No. V. The Garden: or the Art of Laying out Grounds. By the Abbe De Lille.

This poem, written in French by the Abbe de Lille, and translated by an English lady, was undoubtedly suggested by Mr. Whately's "Observations on Modern Gardening," a work which was, soon after its publication, translated into French. The "Garden" contains but little that is new, delivering in metre the precepts which had been more fully expressed by Mr. Whately in prose. Still it is a work of high poetical merit, and to those who are willing to be trammelled in their progress through a book by rhyme and metre, it may afford more pleasure than a prose essay on the same subject. The author commences with some happy allusions to ancient authors, who have treated of collateral subjects, and then asks:

"Would you adorn the simply charming plain,
Insult not nature with a gaudy train.
The task requires a deep, prophetic mind,
A genius, not a fortune unconfined;
Less proud than elegant; for pomp and show,
Let simple beauties 'mid thy gardens grow.
'Tis a vast picture, where in order rise
The lights and shades to charm the wondering eyes.
Paint then; the flowery plains, their numerous shades,
The streams of light, the moss-imbrowned glades,
The hours, the seasons as they glide away,
The circling year, the lesser circling day,
Fringed with embroidery gay the meadow's pride,
The verdure clothed upland's sloping side,

> The trees, the flowers, the rocks, the waters, these,
> These for your colors, brush and canvas seize.
> Nature is yours: then let your fertile hand
> The obedient elements to form command."

In general, I shall endeavor to give the author's ideas in prose, as my purpose is abridgment. He advises to study nature as well as art, for have you not often, he asks, when rambling amid the wild scenes of nature, been struck with certain enchanting features, in a glade or dell, and compelled to stop and admire it, as we pause to listen to a delightful strain of music? Fix the peculiar features of such a scene immediately in your memory, transplant them to your own grounds, and thus learn to rival nature's own magnificence. Mark also where the plain has been adorned by some happy efforts of taste; examine all those places which, from age to age, have been adorned by different hands, and in which the different tastes of succeeding generations are displayed and combined. Such scenes as these will often disclose original beauties well worthy of imitation.

When you are ready to commence your work, consult the genius of the place, and strive not in opposition to it to add foreign and uncongenial graces to the soil. Whatever the grounds receive with a happy combination should be readily transplanted. Then nature appears decked in her own charms, and no imitation is detected. It was thus that Poussin learned to surpass nature in his copies of her scenes. There was a time when art seemed to delight in destroying every appearance of nature; she filled up vales and levelled hills, till the eye was tired with the insipid flatness of the landscape. Then came the rage for the very opposite course; new valleys were sunk and strange hills were thrown up. But each of these extremes is to be avoided. Nature's inequalities may be improved, and their effects enhanced. A promontory may be rounded or rendered more bold; natural levels may be smoothed, and certain undulations of surface may be made more graceful; but, in all these operations, the original features of the place must not be obliterated.

"Let dull mechanics in the cloistered schools
Cramp nature's freedom with their compassed rules;
Their grounds with frigid symmetry confine,
And on dull paper trace the measured line.
You on the very borders take your stand,
The ready pencil trembling in your hand,
The landscapes and the hills around display,
Mark how each distant object fades away,
Learn each resource, each obstacle devise,
Wonders from difficulties always rise."

Next follow some excellent remarks on the advantages to health and to prospect derived from the draining of morasses. Wherever a stagnant fen sleeps in unwholesome torpor, there spread out a lake, or lead along a river that shall drain off the stagnant waters, and render a scene that was unsightly and unhealthy, beautiful to the sight, salubrious, and fit for the dwellings of men. Such a method of making artificial water, we would add to the author's remarks, must be followed with highly beneficial effects, and the evident utility of such an operation would atone for any formal lines in the courses of the canals, or in the boundaries of the ponds thus created.

The author dwells on the importance of life and motion to the charm of landscape scenery. Trees bending to the breeze on the green, open plain; smoke ascending from cottage chimneys; herds running upon the hills, and shepherds or peasants engaged in their labors,—all these objects add interest and positive beauty to a landscape, as they do to a picture. The appearance of liberty is no less pleasing than that of life and motion. Hence the limits of the grounds should not be apparent: they should be hidden, if not removed. All charms vanish when expectation ceases: some things not yet seen must be imagined to await us in the distance, and we must apparently enjoy a free access to these unexplored parts of the landscape. Our Gothic sires, for security from their foes, transformed their rural mansions into camps. But in these days there is no occasion for preserving their high walls and their entrenchments.

"To walls that frown, o'erhung with dismal gloom,
True taste prefers those mounds of various bloom,
Where the fringed thorn its purple fruit bestows,
And the hand trembles as it plucks the rose."

The author remarks that, if we cannot extend our domain, we may widen our prospect, and appropriate all the distant beauties of the landscape to our own enjoyment.

In the second book, the author treats more particularly of trees. A tree is worthy the study of every observer:

> "Forever richly robed with fruits and flowers,
> In beauty and in strength alike it towers:
> How versatile, to please the changeful eye,
> It springs from earth and rears its head on high;
> Or spreads around its rude and rugged arms,
> In majesty, or elegance of charms!
> Now to the breeze it bends, and now it braves
> The blast that round its knotted armor raves,
> And varying still, adorns the various view,
> With each diversity of form and hue."

Again, how various are the arrangements of different trees in the forest, in the grove, or on the open plain. In the forest a deep gloom prevails, reminding us of the shades of night; trees of more beautiful forms array the smiling glade; scattered clumps appear in the distance, or single trees spread their branches majestically over the land, where they seem to hold sway. Formerly, in the trim gardens of our ancestors, a tree was not allowed to attain its natural shape and proportions. Nature was treated as if she had no power to create a beautiful object without the aid of the shears and the pruning knife. We have now learned that art can produce no valuable work in landscape except by aiding nature and copying her graces. Great care should be used, when engaged in improving a landscape, in felling trees. Trace well your plan, and ponder long upon the matter, before you sacrifice a tree; and after you have determined to remove it, let some time elapse before you execute the sad office. Think how slowly that tree has grown to its present height; how many years were required to raise it to its present beauty and majesty. Wealth cannot create a tree; time alone can produce it, and succeeding generations only can behold it in its perfection.

> "O, by those shades, beneath whose evening bowers
> The village dancers tripped the frolic hours;

By those deep tufts that shroud your fathers' tombs,
Spare, ye profane, their venerable glooms!
To violate their sacred age, beware,
Which even the awe-struck hand of time doth spare,
Too soon, alas! to fate their strength must yield,
Too soon shall younger trees usurp the field!
The axe will fall: on earth's cold bosom laid,
Defiled with dust, their branch and leaf shall fade."

In the third book, the author speaks of the lawn, in the management of which he recommends English examples for a pattern.

"The water-pot, the scythe, thy hand should bear,
And tend the turf with never-ceasing care;
Allay its thirst, crop its luxuriant head,
And, with the roller, press the verdant bed;
From the smooth surface of the level lawn,
With care be each usurping blade withdrawn;
Then, soft as down, the tender turf may lie,
And oft the waste of withering time supply.
The rich luxuriance of the shaven gréen
Should grace the fore-ground of the lovely scene.
Afar let herds amid the pastures feed,
And they alone will cultivate the mead.
Thus numerous fatlings in your parks will stray,
Enrich the field and make the landscape gay.
Nor blush to hear the sheep or useful cow,
Slow winding in the valley, bleat or low.
For though blind pride their simple charms disdain,
They grace the soil and animate the plain."

But a wide extent of lawn is useless, unless the scene is diversified by taste. All measured forms, all tasteless circles and formal squares, must be avoided, and the grounds must not be made tame by symmetry. Variety and unstudied irregularity should prevail in the arrangement of objects. Here let the green surface steal into the bosom of the embracing woods that shall conceal its course; the wood should advance to meet the lawn in one place, and retire in another, to yield a space to the green plain. Yet all these things are apt to become insipid without the addition of flowers, that give a lovelier smile to nature's face. The author recommends a profusion of flowers in all parts of the cultivated landscape. He would not confine them to the parterre, but

shower them around upon every scene, as they are scattered by nature in her own wilds.

The author alludes to the time when rocks were considered as so many deformities of a landscape. But the painter taught men, by his use of them on canvas, that they gave life and sublimity to a scene that was otherwise monotonous and bald. In allusion to the saxatile plants, he exclaims,

> "Are there not curling shrubs that gently creep
> To hang their tresses on the naked steep?
> How close they cling! how gradual they glide!
> I love their verdure on its sunburnt side;
> I love the little root that dares to blow
> Upon its worn and weather-beaten brow.
> And haply, too, the opening rocks between,
> I find a small recess; delicious scene!
> For soon, I ween, it answers to my care,
> And every fruit and every flower is there.
> Variety how rich! Dark, dreary glooms
> Above; below the secret valley blooms."

> "Ye rocks, unlock your subterranean cells;
> Ye rivers, brooks, fair lakes, and limpid wells,
> Give life, give verdure, as along you stray;
> No other beauties could your loss repay."

While treating of rocks, the author is naturally led to consider the subject of water, which commonly abounds in rocky scenery. He considers water as of chief importance in giving animation to a scene in nature,—still water by its brilliant sheen, and running water by its sound and motion. He recommends to guide the rude mountain streams among the rocks and over the pebbles, so as to give every possible variety to the landscape, by means of waterfalls and rippling fountains; and he mentions the frequency of streams as one important means of attracting the singing birds. With these appurtenances,

> "Gales o'er the lawn a fresher odor fling,
> And falling fountains wake the birds to sing;
> The waving woods their dewy branches bow,
> And, with soft showers embalmed, the flowrets blow."

He speaks with feeling of the power of running water to soothe the mind when the spirits are depressed, not only by

its gentle murmurings, but also by leading one to trace the little streams in their winding course through the groves and among the rocks. Hence they should be used by the improver to give intricacy and variety to the scenery, and to excite the curiosity of the visitor. The author laments the custom which was prevalent in his time of reducing the courses of streams to the formalities of art, and of destroying the original charms of nature for the display of wealth. The custom is not yet abolished, we would add, for, to one proprietor of a domain who is possessed of true artistic or poetic sensibility, there are ten who are possessed of nothing but vanity. Hence the display of wealth must always, in the majority of cases, be more apparent than the tasteful development of the native and simple beauties of the landscape.

"The mill that nourished contemplation's dream,
Harsh to nice ears, is banished from the stream.
No more the river winds in wanton play:
Its formal banks the tedious line obey:
With blushing flowers the shore's no longer crowned,
Nor winds a verdant belt the stream around;
But marble proud usurps the green domain,
And of their stony bonds the waves complain;
The drooping willows quit their watery bed;
A shorn and captive family succeed."

Although three quarters of a century have elapsed since this poem was written, the same taste for artificial smoothness, geometrical figures, and clipped hedges, still prevails; and so universal is this taste for *baldness*, that even the plain farmer in the country will not allow the wild shrubbery to grace his rude stone walls, though it occupies a space which cannot be reached by the plough, and which must necessarily lie fallow. All stone walls ought to be completely enveloped in this wild shrubbery, which would hide their baldness, secure them from dilapidation, and convert objects which, without such an accompaniment, are a deformity to the landscape, into ornaments surpassing in beauty the finest clipped hedge on the face of the earth, as much as the natural curls on the head of a beautiful child surpass the nicely trimmed moustaches of a modern dandy.

In the fourth and last book, the author treats of paths and of buildings. He begins, as every writer since has done, by condemning straight lines and right angles, and recommending the graceful serpentine walk, and advises that the paths should be constructed in such a manner as to ornament the prospects which they show.

> "To all the fairest aspects let them lead,
> With artful skill you bid the stranger's eye
> Avoid disgust, and every grace descry:
> As on he goes, you bid fair prospects smile,
> And e'en new beauties his return beguile;
> Amused and still drawn on by fresh surprise,
> From scenes that fade, he views new scenes arise.
> What though you feed this hope, you never cloy;
> And, oft to heighten, you protract his joy."

He ridicules all labyrinths, as well as all formal and systematic lines, and advises that every path should seem to have a purpose by leading to some important object or prospect, though it be a monument or an inscription. But he exclaims,

> "Far be removed each vain, capricious show,
> Urns without grief, and artificial woe.
> Each monument of dogs and birds disdain;
> Insult not sorrow, nor the grave profane."

And he advises, if you have no deceased friend to celebrate by such a monument, to erect one to some virtuous person among the humble children of toil, who deserves to be remembered for his generous deeds and his honest life.

There is more poetry than precept in this last book, but it is pleasing to observe how unsparing is his censure of all counterfeit objects. Some persons, he remarks, are so delighted with these follies that they convert their grounds into a wild chaos of buildings:

> "Kiosk, pagoda, obelisk, and dome,
> Drawn from Arabia, China, Greece and Rome,
> In one small spot, profusely barren, hurled
> Each quarter of the wide extended world."

He would exclude all idle ornaments, but would not hide the useful and rustic buildings and implements of the farm. Let all the rural geer be seen,—sledges, harrows, wagons and

ploughs, the sieve, the fan, and the sheaves and heaps of golden grain. He eulogizes the domestic animals of a farm, and considers them as indispensable ornaments to a landscape, which is cold and desolate without them. In fine, the whole poem is written with a deep feeling of what is most interesting in landscape, and a full understanding of the ridiculous. It is superior in poetical merit to Mason's "English Garden," but the translation is written in very slovenly metre, and abounds in expressions which do not give the full meaning of the author, leaving the reader to find it out by deduction. We will conclude with the following beautiful eulogy on the farm :—

"The farm! what joys that single word can give!
What warm emotions in my breast revive!
The golden age again resumes the year;
The harvests, orchards, pastoral joys appear:
Those scenes adored in youth, life's golden age.
Hark! how the birds our listening ears engage!
I hear the wheels that roll abundance round,
And flails in cadence falling on the ground.
Adorn these scenes; but let not great expense
There raise a palace of magnificence.
A simpler elegance will grace the farm;
Thus, like an eclogue, will it know to charm.
Since luxury affronts the rural gods,
Banish it ever from their loved abodes."

EUROPEAN PARKS, NO. VII.

BY HOWARD DANIELS, ARCHITECT, N. Y.

SUYDENHAM PALACE, PARK AND GARDENS.

THESE grounds are undoubtedly the finest of their kind in England, and probably in the world, and furnish a brilliant example of what can be done in a short time, by plenty of means, under the direction of one of the most skilful landscape gardeners in the world.

The styles chosen are the Italian for the gardens in the immediate vicinity of the palace, and the natural, or what is

known on the Continent as the English style, for the more distant portion.

In the Crystal Palace gardens the Italian style has not been servilely copied, but rather adapted and appropriated. It has been taken in fact as the basis of a portion of the gardens, and modified to suit the English climate and English taste.

In these gardens we have the terraces and the architectural display, the long walks, the carefully cut beds, and the ornamental fountains; but the undulations of greensward, that bespeak the English soil, give a character to the borrowed elements which they do not have elsewhere.

The violent juxtaposition of these two styles of gardening, —the Italian and the natural,—it may readily be conceived, would produce a harsh and disagreeable effect. To avoid the collision, Sir Joseph Paxton introduced, in the immediate vicinity of the terraces and the broad central walk, a mixed or transitional style, combining the formalities of the one school with the freedom and natural grace of the other; and the former character is gradually diminished, until, at the north side of the grounds, it entirely disappears, and English landscape gardening appears in all its beauty.

The Crystal Palace and its grounds occupy 200 acres, and it is of importance to note that, in the formation of the gardens, the same uniformity of parts is adhered to, as in the building itself; that is to say, the width of the walks, the width and length of the terraces, the breadth of the steps, are all multiples and sub-multiples of the one primary number of eight. By this symmetrical arrangement, perfect harmony prevails, unconsciously to the looker on in the Palace and in the grounds.

The length of the upper terrace is 1576 feet: and its width 48 feet; the terrace wall is of Bath stone, built with projecting bays or alcoves, the pedestals supporting marble statues or vases filled with flowers.

The width of the central flight of steps is 96 feet, and this is also the width of the grand central walk, running from the central nave of the palace entirely across the grounds.

The lower terrace is 1656 feet long between the wings of

the building, or nearly one third of a mile, and 512 feet wide, the basins for the fountains on this terrace being, as just stated, all multiples of eight.

A large circular basin in the central walk is 196 feet in diameter, and the cascades beyond are 450 feet long; the two largest basins for the fountains are 784 feet each in length, having a diameter in the semicircular portion of 468 feet each. Such are a few of the principal dimensions connected with the Palace Gardens as they are seen on the surface. But although the work that is above ground may be recognized and calculated with little difficulty by the visitor, there is beneath the surface an amount of labor and capital expended, of which he can scarcely form an accurate idea. Drain-pipes spread under his feet like a network, which amount in length to several miles; he treads on thousands of bunches of faggots which have formed his path; he walks over ten miles of iron piping which supply the fountains for his amusement.

Upon quitting the building, I paused at the top of the broad flight of steps leading to the first terrace, to survey the prospect before me. At my feet were the upper and lower terraces, bordered by massive stone balustrades, the long lines of which are broken by steps and projecting bastions, and ornamented by statues and vases filled with flowers. The broad central walk lay straight before me, and on either side of it, on the second terrace, the ground was covered with green turf relieved by superb single trees, groups of shrubs, and beds filled with gay colored flowers, heightened in effect by fountains throwing water high into the air. As a side boundary to the foreground of this magnificent and enchanting picture, the wings of the building stretch out their light construction and blue coloring. Looking straight forwards below the end of the second terrace is the large circular fountain surrounded by architectural ornaments, and white marble statues, which stand out sharp and clear against the dark landscape beyond. On either side, and on a yet lower level, are the temples of cascades, below and beyond which are the cascades themselves—running parallel with the central walk —over which the foaming waters from the temples pass, and

seventy marble vases filled with flowers, and on the parapet wall and steps as many more.

The great variety of evergreen shrubs, some in groups, some in beds with clipped borders of different materials, are far too numerous to name and describe here.

Descending another broad flight of steps I entered the mixed gardens before mentioned, which extend entirely across the grounds, and parallel with the palace. In the centre is a large circular fountain, forming one of the most brilliant water displays in the gardens, depending solely upon the water for its effect, and not at all upon architecture or sculpture.

Around the basin the water rises in a myriad of small streams, about four inches apart, and in two series, the one inclining to the right and the other to the left, interlacing gracefully, and forming a liquid hedge four feet in height, falling outwards; the second zone of jets are twenty-four in number and in flat streams about ten feet high, falling inwards and diagonally; the third zone consists of twelve vertical jets, thirty-five feet in height; the fourth zone contains twenty-four jets, ten feet high, falling outwards and diagonally; the fifth zone is about twenty feet in diameter, the jets being about six inches apart, and inclining outwards at an angle of ninety degrees; the sixth zone contains twelve vertical jets, fifty feet high, and the centre consists of four jets, seventy feet in height.

This fountain is in the centre of the great central walk, the opposite sides of which are enclosed by a massive stone balustrade, the pedestals being surmounted by marble statues, copies from the antique, and of works by Thorwaldsen and Canova; among them are the celebrated Farnese Hercules, the free and graceful Mercury by Thorwaldsen, the Venus of Milo and the Paris of Canova.

On the right and left are two small fountains. After passing down another flight of steps, I soon came to two circular temples of beautiful iron-work, called the Temples of the Cascades. The water is forced up the central column of these structures, and then falls from the top on every side,

so as to enclose them in films of water like glass shades. After filling the surrounding basins, the water hurries down the series of steps which form the cascades on either side of the central walk, and then flows over the arcades into the great reservoirs on this side of the Grand Plateau.

The grounds on either side of the central fountains, temples, and cascades are in the mixed Italian and English styles, in which green undulating lawns, irregular groups of trees and shrubs, beds planted with laurels, rhododendrons, azaleas, &c., and winding walks prevail. To the right is a mound, surrounded by an arcade of arabesque ironwork, around which innumerable roses are twined; to the left a similar mound is devoted to herbaceous plants and low growing shrubs.

The two lower fountains were not finished, and I can only say they are intended to be the largest and grandest in the world; they will not throw water so high as the great Emperor at Chatsworth, and perhaps one or two others, but will embody a variety of forms and an amount of diversified effects that will throw all others completely into the shade.

The mixed or transitional style ends at the two great fountains; beyond them the trees wave their long branches, the paths wind, and art recedes before nature.

From the top of the Grand Plateau, which is fifty feet in width, a general view is obtained of a tract of several acres of ground occupied by Geological illustrations, and including a number of islands already partly covered by strange figures, the restored forms of various animals, which for many ages have ceased to exist as living tribes. The wonders of geology are not confined to grand mountain chains piercing the clouds, burning mountains vomiting steam and hot ashes, and accumulations of animal and vegetable remains found embedded everywhere around us. They extend to facts connected with the structure of the earth's crust, the existence of stores of mineral wealth, and strange results derived from the comparison of existing races with the fragments of other races formerly occupying the surface. The form of the surface depends on the internal structure; the scenery is due to the circumstances of the prevailing rock and soil; and the

sea-cliff or naked mountain sides are the places where nature teaches her first great lesson of the natural history of the mineral kingdom.

In order to illustrate geology it is intended that the ground forming the cliffs, shores, banks and islands in this part of the park shall ultimately be so constructed as to give, in a series of views, a number of practical lessons in geology, tending to make the essential facts of the science easily understood, while, at the same time, they add to the picturesque beauty of the scenery.

The whole plan is not yet complete, but several sections of coal fields, old red sandstone, carboniferous limestone, millstone grits, &c., form very interesting and useful studies. On one of the islands are the restorations of the extinct animals of the secondary period; on another are those of the tertiary period, &c., after plans and models by Professor Unsted.

This brief account I fear will not convey a very clear and distinct idea of the extent and variety of the features and details which have been gathered together in so short a space of time, and arranged with such consummate skill and taste by Sir Joseph Paxton; which, together with the palace and the treasures of art it contains, are richly worth a visit across the Atlantic to those who have the time and means at their disposal.

THE JUNIPER, THE WHITE CEDAR, AND THE ARBORVITÆ.

BY WILSON FLAGG.

Of the coniferous trees in our own woods, it remains to speak of three more, that can hardly be said to bear their fruit in a cone, but rather in a sort of berry. These are the Juniper, the White Cedar, and the Arborvitæ; and the Yew might be added, were it not that the American Yew is but a prostrate shrub, like the dwarf juniper. It may be here remarked, however, as a singular fact, that the yew, which is a *shrub* on the Atlantic coast of America, becomes a *tree*

on the Pacific coast, like the European yew. The same is true of the alder. The birches, on the contrary, which are large trees in this part of the continent, are scarcely more than shrubs west of the Rocky Mountains. The *Juniper*, (Juniperus Virginiana) often called the *Red Cedar*, and recognized in certain vicinities as the *Savin*, is well known to everybody, and is associated with the most rugged scenery on our coast. Wherever, within half an hour's ride of the ocean, the dry rocky hills have been stripped of their virginal growth, the Juniper springs up, as if it found there a soil congenial to its wants and habits. From the slowness of its growth, and the inferior size it attains in this vicinity, I should judge that our climate, or our soil, is unfavorable to it, as it seldom attains its full stature on the coast of Massachusetts. As we journey southward we find it in perfection in New Jersey and Maryland, and especially around the city of Baltimore, where are very many noble trees of this species, bearing a favorable comparison with the spruces of the north. In all the Atlantic States south of Baltimore, the Junipers are fine trees, and it is evident, without questioning their superior hardiness, that a southern climate is the most congenial to them.

At the north they are not only inferior in size, but also in the beauty of their shape and foliage, which is faded into a rusty hue by the first severe frosts of autumn, and never attains that fine verdure which I have observed in the southern trees of this species. On our barren hills, where they are so common as to be a distinguishing feature of some of our landscapes, they assume all sorts of shapes and grotesque peculiarities of outline. I am no contemner of this tree, which has always been a familiar object to my sight, and in which I can behold beauties that compensate for all its imperfections. Even its rusty green foliage serves to add variety to the coloring of the landscape, and by contrast to brighten the verdure of other trees in the adjacent grounds. This effect is the more remarkable after midsummer, when the woods have a tendency to exhibit a uniformity of verdure, which is agreeably set off by a mixture of duller tints.

The Juniper is very full of branches, irregularly disposed

at a small angle with the trunk, and forming a denser mass of foliage than can be found in any other tree. A singular habit of this species is a tendency to produce tufts of branches with foliage resembling that of the prostrate Juniper (*Eagle's Nest*) as if the latter had been engrafted upon it. The berries, which are very abundant in the fertile trees, are of a light bluish color, and are highly ornamental. They afford a winter repast to many species of birds, and are eaten with avidity, as soon as they are ripe, by the *Waxwings*, which on this account have received the name of Cedar-birds. The branches of the Juniper, when brought in contact with the soil, readily take root; and hence we often see a clump of small trees springing up around a large tree, from the lower branches that have dipped their extremities into the soil and there taken root.

The Red Cedar is considered by botanists as identical with the Savin of Europe. It has a very wide geographical range, being found over the whole extent of the Atlantic coast of America from Canada to Florida, and in the states on the Gulf of Mexico, and extending to the Rocky Mountains. It is also found in Europe and various parts of Asia, and in some of the West India Islands. The timber of this tree is exceedingly valuable, on account of its durability; but in this vicinity it is, on account of its inferior growth, seldom used except for posts.

The White Cedar (Cupressus thuyoides) is of but little value for cultivation, as it does not thrive well except in wet and swampy situations. This is the tree which predominates in those deep morasses, known as Cedar-swamps, so remarkable for the difficulty with which they can be reduced to tillage. It is superior in beauty as well as in size to either the Arborvitæ or the Juniper, having a more delicate foliage than either, resembling them in the graceful flexibility of their terminal branches, and often attaining the height of sixty or seventy feet. By some writers this tree is classed with the cypresses, by others with the Arborvitæs, having about an equal resemblance to each. Its similarity, however, to the Juniper or Red Cedar, in the eyes of one who is not a

botanist, is more apparent than its similarity to any other tree, and to the southern Cypress it has no superficial resemblance, except in wood and bark. Like the latter, however, it is attached to cold and gloomy swamps, where no other tree will thrive, where it often forms a dense growth that is almost impenetrable.

I have said that the White Cedar cannot be used for ornamental purposes. I ought to qualify this remark: for many an ugly half-inundated morass, which cannot be drained, might be transformed into a beautiful forest by planting it with White Cedars, which in the course of time would be exceedingly valuable to their owner, and serve also the needful purpose of covering unwholesome stagnant waters. Mr. Emerson, whose work on the "Trees of Massachusetts" is unsurpassed in the concise elegance of its style, in its tasteful comments, and its useful suggestions, makes the following remarks on this point: "The White Cedar has so many excellent qualities, that, in an industrious and manufacturing community, it can never cease to be valuable. It is one of those trees, therefore, which ought to be cultivated in great numbers, to supply the wants of posterity. Fortunately, it is one which can be cultivated with less trouble, and at less expense, than any other forest tree, and it conflicts with no other. There are large tracts of cold, swampy land, which could be drained only at great expense, which might in their present state be made to produce valuable forests of this tree. It would be only necessary to gather the seed from the forests already growing, and cast it abundantly, in the fall of the year, upon the surface of the ground or water, in the morasses or swamps intended for its use. In six or eighteen months the seeds will vegetate. In a few years, thinnings might be made, which, for enclosures alone, would pay a high rate of interest upon the value of the land and of the labor bestowed."

Our operations for improving the beauty of landscape ought not to be confined to the garden or to the enclosures of our dwelling-houses. I should form a contemptible opinion of the taste of one, who should build an elegant house,

and surround it with beautiful trees and a delightful garden, if at the same time, in the background of this picture, and in his own land, was a hideous morass remaining neglected that might be covered with White Cedars; or a bald and barren elevation, unfit for any purposes of tillage, remaining uncovered with trees, by which it might be rendered the crowning beauty of the landscape. Such a man resembles a painter who should bestow particular pains to finish the foreground of his picture with a superfluous degree of nicety, while he left his background a slovenly daub. A knoll of well-developed forest trees in a conspicuous part of the landscape is a more important object of consideration than a garden, and one magnificent tree is worth more than a hundred parterres.

The wood of the White Cedar is exceedingly valuable for its durability, and especially for its power of resisting the action of alternate moisture and dryness. It is used, therefore, more than any other timber for the "sleepers" of our railroads—those destroyers of our forests—forests that will soon disappear from the face of the earth, if the present rapid rate of consumption does not soon drive men to consider the necessity of restoring them as fast as they are removed. And when our climate, which is now a cold and a dry one, is rendered still more severely cold and dry; when the mountains and hills, stripped of their clothing of wood, afford no protection from the sweep of the north wind, and supply no more water to the rivers that irrigate the plains; when heavy showers, coming rarely and then profusely, leave no moisture on the hills, but, rushing impetuously down, cause sudden and destructive inundations in the valleys; when the carpenter and the ship-builder are obliged to send to distant lands for timber which, for the same cause, has greatly diminished, and is rapidly disappearing from the uttermost parts of the earth; when this land, which is now covered with beautiful and magnificent forests, has become a waste of naked hills and unprofitable valleys, and is alternately visited by excessive drought in summer and by the cold of the Arctic circle in winter:—will the unfortunate generation

that witnesses this consequence of the multiplication of railroads, consider the steam engine a blessing or a curse to the human race?

The American Arborvitæ (Thuja occidentalis) is a northern tree, hardly ever seen in the forests of Massachusetts, but growing abundantly in Canada and the northern parts of the United States. It is a small tree, seldom attaining more than a foot in diameter, or rising above the height of 20 or 25 feet. The lateral branches are small, running up at an acute angle with the trunk, and forming an exceedingly narrow and graceful spire. The greatest peculiarity of this and other Arborvitæs is the flattened arrangement of the leaves, appearing in rows and opposite pairs, so that the terminal branch, invested by the leaves, and not the leaf itself, forms this fan-like arrangement. The whole appears, as it were, a large, flat, doubly pinnate leaf. The foliage of the Arborvitæ has the flavor and the odor of tansy.

There is often a certain irregularity in the shape of the trunk of this tree, which is curved, and affected with oblong swellings that take the direction of the larger roots. This accident, however, does not diminish its value for ornamental purposes, to many of which it is singularly adapted. Some beautiful trees of this or a kindred species, in Mr. C. M. Hovey's cottage enclosures, show how admirably they serve both as a screen and an ornament to the grounds. These trees, some standing alone, and others forming a row on the east side of the house, are finely developed, and form a series of elegant spires, that never fail to attract the attention of the tasteful traveller. Objections are made to Arborvitæ on account of the formality of its growth: but formality is hardly a serious defect, when it is combined with that pleasing flexibility of the branches, which characterizes this tree. Its foliage, likewise, acquires a rusty hue in the winter; but this dinginess disappears in the opening of the year, when it assumes a very lively tint of verdure. I can conceive of nothing more beautiful for the enclosing of a rural cemetery, than a belt of Arborvitæs, standing their own width apart, and connected by a wire-fence. The branches of the trees as

they increased in size, would soon meet, without interference, while the wire-work would render them impenetrable. How infinitely must such a belt, always increasing in beauty, and requiring no labor, surpass the unnatural formality of a clipped hedge! Besides, it ought always to be considered that in every place where a tree will do as well as a shrub, the former is to be preferred, because the tree in hundreds of points is more valuable and more beautiful than the shrub.

The wood of the Arborvitæ, like that of the two preceding species, is valued for its durability, being also very light, soft and fine-grained, of reddish color, and odorous like cedar. Hence it is adapted to most of the purposes for which the cedar is used, when it is of sufficient size. It is commonly used only for posts and fences, which will outlast those made of almost any other timber.

P. S. Since these remarks were written, we learn from the *Chicago Press*, that the Illinois Central Railroad Company have contracted for the planting of locust trees on each side of the Illinois Central Railroad, over a space of one hundred and twenty miles. Their object is to raise trees that will furnish ties in the place of those which shall have decayed. Were every railroad company to imitate this example, and to take measures to plant a sufficient quantity of trees annually, to supply, after a certain time, the place of the timber they consume, the curse which, as I have prophesied, might be invoked upon the steam engine by our posterity, may be changed into a blessing; and they may likewise owe to railroad companies the first magnificent examples of making extensive timber plantations.

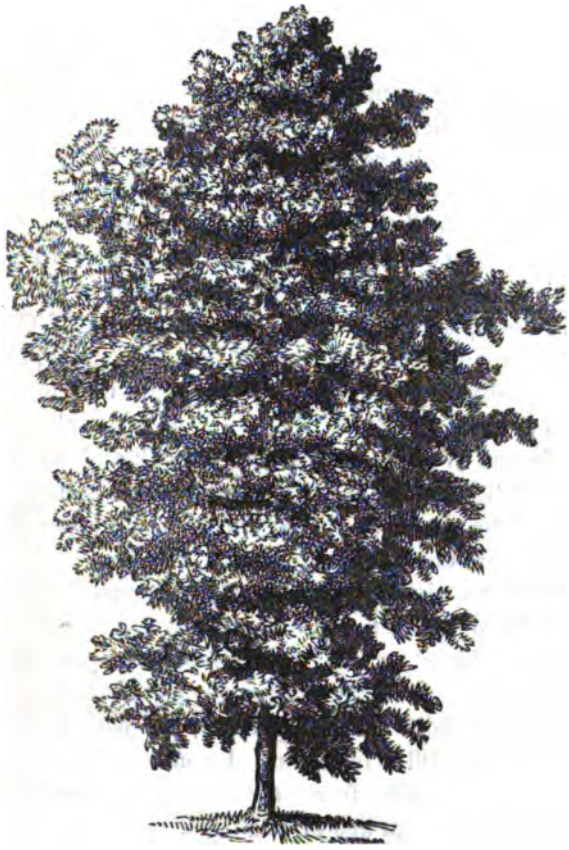
OUR ORNAMENTAL TREES.

BY THE EDITOR.

5. The Tulip Tree, (Liriodendron tulipifera, *L.*)

No trees, unless we except the magnolias, of any clime, excel in magnificence the Tulip. In the grandeur of its

erect trunk, and in the amplitude of its leafy head, it even surpasses these, and all other deciduous trees of this country, and is only equalled for its breadth by the Buttonwood. In favorable soils and situations it attains the great height of 140 feet, and Michaux's father saw one, near Louisville, Ky., which measured 22 feet 6 inches in circumference.



19. THE TULIP TREE.

Though common throughout the Middle States, it is but rarely introduced into ornamental grounds, or planted as a shade tree. Its roots, like the magnolia, are large, soft, and fleshy, easily bruised or broken, with few small fibres, and will not bear the rough usage under which the elm, ma-

ple and other trees are very successfully transplanted. This, added to the absence of the trees from the forests near our larger cities, where their beauty would soon render them familiar and eagerly sought after, has prevented them from becoming better known and more frequently planted.

The Tulip tree, (FIG. 19,) White Wood, or Poplar, as it is called in the regions where it is most abundant, occupies a most extended range of territory, its northern limit reaching to the southern extremity of Lake Champlain, in lat. 45°, towards the Atlantic, and to Canada West inland. Michaux states the former as its eastern limit; but Mr. Emerson found it rather abundant on the Westfield River in this State, and also rarely much further east. It is, however, only beyond the Hudson, and two degrees further west, that it is frequently met with and fully developed. It is multiplied in the Middle States, in the upper parts of the Carolinas and of Georgia, and is still more abundant in the Western country, particularly Kentucky. It is comparatively rare in Florida, on account of the poorness of the soil, and is less abundant in the Middle and Western States than the oak and the walnut, because it delights only in deep loamy and extremely fertile bottoms that lie along the rivers, and on the borders of great swamps that are enclosed in forests.

The Tulip tree in the Atlantic States usually attains the height of 70 to 80 feet, with a columnar and magnificent trunk, and a broad, round, and somewhat open head. It branches are thrown out at various angles, though generally ascending, especially in young trees; the bark is of a dark ash color, smooth till it has acquired considerable size, when it begins to crack, with furrows of greater or less depth, according to the size and age of the trees.

The leaves are large, six or eight inches broad, borne on long petioles, alternate, thick, smooth, of a beautiful green tint. They are divided into three lobes, the middle one of which is horizontally notched at its summit, as if cut off, and the two lower ones are rounded at the base; their peculiar form distinguishing it at once from all other trees. The flowers are large and solitary at the ends of the shoots, nearly

three inches in diameter, with six petals, resembling in form a tulip, of a greenish yellow tint, striated, veined and dotted with a crescent-shaped spot of bright orange towards the base; the centre is prominent, with its large, fleshy, conical pistil, surrounded by numerous stamens with long anthers. The fruit forms a cone, two to three inches long, composed of a great number of thin, narrow scales, enclosing sixty or seventy seeds, of which rarely more than a third are perfect. It does not bloom until the age of ten or twelve years.

The Tulip tree was early introduced into Great Britain and France, though the exact date is not known; it was cultivated by Compton, at Fulham, in 1688. There are now numerous and fine specimens in various parts of England, Scotland and Ireland. On the Continent it is so abundant that public avenues are planted with it. When first introduced to England, it was for a long time cultivated in pots in the greenhouse. It first flowered in the garden of the Earl of Peterborough.

The Tulip tree is rarely cultivated in any other way than by seeds. These are easily obtained, and grow freely with proper management. They should be sown in the open ground in autumn, or in boxes in the greenhouse, where the young seedlings will make their appearance in the spring. If in the ground, they will only need the usual attention of hoeing and thinning, if too thick, and the second year be removed to nursery rows. If sown in boxes, they may be removed to the open air on the approach of good weather, where they should remain all summer, sheltering them the first winter in the cellar, or covering them with leaves, which prevents any danger from severe cold. The trees prefer a deep, rich, mellow loam, not too dry in summer or too wet in winter. The average rate of growth is two to three feet a year, and trees ten years old, in our grounds, are twenty-five feet high.

As an ornamental tree the Tulip has too long been neglected. While, with us, we plant our public avenues with English limes and American elms, the French and Italians, with better taste, select the Tulip tree. In the stately ap-

pearance of its magnificent trunk; in the richness and profusion of its singular-shaped and pleasing green foliage; in the brilliancy and abundance of its large, tulip-shaped blossoms, and in its freedom from the depredations of insects, it is preëminently fitted to adorn our public avenues, our parks, and ornamental grounds.

FLORICULTURAL AND BOTANICAL NOTICES.

PENTLAND'S SEEDLING ROSES.—We briefly noticed Mr. Pentland's new roses in our last number; since then, one of the varieties has bloomed in our collection, viz., the Beauty of Greenmount. It is one of the best roses of its class we have ever seen, and excels any of the French varieties. It is a most decided acquisition, and must become a great favorite. The color is the deepest and most brilliant carmine, rivalling the much admired Chenedolé, quite distinct, and readily distinguished in the most extensive collection. Its growth is vigorous, its foliage good, the clusters of flowers large, and the blossoms of medium size, very full, cupped and double. In addition to these fine qualities, it is a most profuse bloomer; small plants just received from Mr. Pentland being covered with buds. In Baltimore it has the commendation of Messrs. Wilson, Feast, and Kurtz, gentlemen who know what a good rose is, and we can ourselves confirm all they have said in its praise. It is the only good bright colored Noisette rose we ever saw. It must be possessed by all who admire a fine rose.

Of the habits and hardiness of these roses Mr. Pentland writes us as follows:—

"The last winter the thermometer at my place was 19° below zero, and nearly all the roses were killed to the ground; yet of the Beauty of Greenmount the old wood has stood for *six* inches above the ground, leaving plenty of fine eyes, that are now starting, and will make splendid flowering shoots, for it is of that habit that the plant will flower in thumb

pots; it is not exactly a *climber*, but of a very vigorous growth, of the character of Fellemberg noisette.

"Of the Woodland Margaret I cannot speak so favorably with regard to this winter, as it is cut down to the snow line, about *two* inches above the ground. It has been an extraordinary winter here, and a good deal of the wood on the prairies has been cut down by the cold. This rose is white, and it is a *climber*, making very large growth, a most profuse bloomer, and of such a *rich fragrance* I do not know of another white rose of the same habit."

With a slight covering the Woodland Margaret could undoubtedly be finely grown in the latitude of Boston.

CLEMATIS LANUGINOSA.—This new and fine Clematis has recently been exhibited before the Massachusetts Horticultural Society, and was much admired. It is a Chinese species, found by Mr. Fortune on the hills of Chekiang, and sent to England in 1852. It is found on the hill sides near the city of Ningpo, growing in stony soil among the bushes, spreading itself over the latter as our own native Clematis covers the low shrubs in our woods. The flowers are very large, measuring four to five inches across, resembling those of azùrea, of a lavender blue color; there is also a pale variety, called lanuginòsa pallìda, but similar in other respects to the species.

In England it is a hardy plant, but whether it will prove so here remains to be seen. If it does, it will be a most valuable acquisition to our hardy climbers. It is, however, sufficiently beautiful to have a place in the greenhouse or conservatory, where, either trained to a trellis or running up a pillar, its large blue flowers will have a fine effect.

NEW HELIOTROPES.—Quite a large number of new varieties of this fragrant and admired flower have been produced by the French cultivators, but, with few exceptions, they have not been distinct enough to attract general attention. One of the best of the older sorts is the Louis Napoleon, a dark one, with a light eye, the truss large and fine. Gem, Corymbosa, Constance, lilacina, &c., are all pretty, but rather too much alike. The newer varieties are better. One called albicans has a fine light flower, nearly white, with a good

truss; but the most distinct is the paniculàtum, producing its flowers in a different style from all the others, as its name indicates; the truss being branched more, with strong side stems, so as to form a large, nearly globular truss, remarkably strong and fine; the color is dark, and of good size. It is the best of the Heliotropes.

NEW GERANIUMS.—The French amateurs are remarkably successful in the production of new seedlings of some classes of flowers. For years the old Scarlet Geraniums have been grown in England, without showing any remarkable or distinct new colors, being chiefly various shades of scarlet or pink: the French, however, particularly M. Domage, have raised some quite dissimilar to any previously seen. Of those we noticed the last season, Rubens and Chas. Domage, the former is a superb rosy crimson, and the latter a salmon pink of exquisite shade: since then we have had two others in bloom, called Nemesis and Consuello: Consuello is a rosy scarlet, with a most extraordinary large and globular truss; Nemesis, a most delicate shade of pink, with a very large, light centre, and immense truss. The habit of both is dwarf, compact and handsome.

ALONSOA WARSEWICZII.—A very pretty little annual or biennial, with long spikes of bright, orange scarlet flowers, suitable for bedding out in summer, where it blossoms abundantly until autumn. Its habit is rather slender, and the foliage small and neat. It is a fine acquisition to the flower garden.

313. LAPARGERIA ROSEA VAR. ALBIFLORA. WHITE-FLOWERED LAPARGERIA. (Simlàceæ.) Chili.

A greenhouse plant; growing three or four feet high; with white flowers; appearing in summer; increased by cuttings; grown in leaf mould and sand. Bot. Mag., 1856, pl. 4592.

The Lapargeria rosea, the parent of this variety, is a beautiful Chilian plant of a slightly twining habit, producing clusters of large, bell-shaped, almost scarlet flowers—described in a previous volume. It is very showy and well worthy of introduction. The present variety is just like the parent, except in the color of the flowers, which is white, approach-

ing cream color, with a tinge of rose at the base. They are produced in twos or threes at the axils of the leaves, pendent, and very beautiful. It first flowered in the Garden of Plants at Paris, where it was received from Chili. It flourishes in a cool greenhouse.

314. Ouvira'ndra fenestralis *Pouret.* Water Yam, or Lace Leaf. (Juncagineæ.) Madagascar.

An aquatic plant; growing one foot high; with singular lace-work leaves; increased by division of the roots. Bot. Mag. 1856, pl. 4894.

A most singular and remarkable plant, found in Madagascar, more than sixty years ago, by Aubert du Petit Thouars, but now first introduced to English collections, where it is growing finely at Kew and other places. The Rev. Wm. Ellis of Hoddesden, Herts, on his return from Madagascar, brought home living plants *with much care*, and, learning the desire of Prof. Hooker to possess "so very curious a plant, whose leaves are constituted by a series of the most beautiful network, without parenchyma, reduced in short to its vascular reticulated tissue," sent him fine specimens. It appears to be of the easiest culture, and Prof. H. remarks, "that he shall be surprised if all who are curious in horticulture do not possess themselves of so beautiful and curious an object, and which is cultivated with the greatest ease in a stove, (or probably warm greenhouse,) in a shallow pan of rain water, including a moderate quantity of earth for the roots to feed upon—being entirely aquatic, the leaves even submerged; and we cannot doubt but it may be cultivated in glass aquaria, and even in a glass jar placed in the drawing-room, as is done with the Vallisneria spiralis, &c."

Mr. Ellis kindly communicated to Sir Wm. Hooker the particulars of his obtaining the plant, from which we quote the following interesting account of this singular yam:—

"The natives describe the plant as growing on the margin of running streams. The root or rhizoma is about an inch in thickness, and six or nine inches long, often branching in different directions like the root of ginger or tumeric, but in one continuous growth. The root is composed of a white

fleshy substance, apparently without large or tough fibres, and is covered with a rather thick, light brown skin. The plant is attached to the sides of the streams on which it grows, by numbers of long, fine, fibrous radicles, which penetrate and adhere firmly to the loam or clay of the banks. Entangled among their roots, were large quantities of decayed leaves and other vegetable substances, from which the plant very probably derives some portion of its nutriment, though, from the bubbles of air frequently found under the leaves, it would seem to possess the power of decomposing a portion of the water in which it grows. I was informed that it also grew in places which were dry at certain seasons of the year; that the leaves then died down, but the root, buried in the mud, retained its vitality, and, when water returned, fresh leaves burst forth. The natives spoke of it as tenacious of life, and said that whenever the earth around, even the smallest portion of it, remained moist, that portion would put forth leaves when again covered with water.

"This plant is valuable to the natives, who, at certain seasons of the year, gather it as an article of food, the fleshy root, when cooked, yielding a farinaceous substance resembling a yam—hence its name, *water yam.*

"The Ouvirandra is not only a rare and curious, but a singularly beautiful plant, both in color and structure. From the several crowns of the branching root, growing often nearly a foot deep in the water, a number of graceful leaves, nine or ten inches long and two or three broad, rise on slender stalks and spread out horizontally, *just beneath the surface of the water.* The flower stem rises from the centre of the leaves, and the branching or fork-like inflorescence is curious; but the structure of the leaf is peculiarly so, and seems like a living fibrous skeleton, rather than a perfect leaf. The longitudinal fibres extend in curved lines along its entire length, and are united by thread-like fibres or veins crossing them at right angles from side to side at short distances from each other. The whole leaf looks as if composed of fine tendrils, wrought after a most regular pattern, so as to resemble a piece of bright green lace, or open needlework. Each

leaf rises from the crown of the root like a short, delicate-looking, pale green or yellow fibre, gradually unfolding its feathery sides, and increasing in size as it spreads beneath the water. The leaves, in their several stages of growth, pass through almost every gradation of color, from pale yellow to a dark olive, becoming, before they finally decay, brown or nearly black; while air bubbles of considerable size frequently appear under the full formed and healthy leaves. It is scarcely possible to imagine any object of the kind more attractive than a full grown plant, with its dark green leaves forming the limit of a circle two to three feet in diameter, and presenting in the transparent water, within that circle, leaves in every stage of development, both as regards color and size. Nor is it less curious to notice that their slender and fragile structure, apparently not more substantial than gossamer and flexile as a feather, still possess a tenacity and wiriness which allows the delicate leaf to be raised by the hand to the surface of the water without injury."

Mr. Ellis preserved his plant for more than a year, at Mauritius, before he returned home. As it grows so freely from the smallest pieces of the root and is so easily transported with safety, we hope it may soon find its way into our American collections.—(*Bot. Mag.*, Jan.)

315. Cli'via Garde'ni *Hook.* Major Garden's Clivia. (Amaryllidàceæ.) South Africa.

A greenhouse bulb; growing one foot high; with red and yellow flowers; appearing in winter; increased by offsets; grown in light loam, leaf mould and sand. Bot. Mag. 1856, pl. 4895.

"Perfectly distinct from the only hitherto known species," with very large umbels of red and yellow tubular-shaped, pendent flowers, exceedingly showy. Treated as a greenhouse plant, it flowers finely in the winter months, and continues for several weeks in bloom." (*Bot. Mag.*, Jan.)

316. Te'coma fu'lva *Don.* Fulvous-Flowered Tecoma. (Bignoniàceæ.) Peru.

A greenhouse shrub; growing two feet high; with yellow scarlet flowers; appearing in autumn; increased by cuttings; grown in light rich soil. Bot. Mag., 1856, pl. 4896.

An erect and most beautiful species, with somewhat of the

foliage of the old T. capénsis, but smaller and neater, producing dense terminal racemes of brilliant flowers, yellow on the under side and scarlet on the upper. It is a Peruvian plant, growing in various parts of that country, from whence it was received by Messrs. Veitch of the Exeter nurseries. It will undoubtedly prove a most valuable acquisition. (*Bot. Mag.*, Feb.)

317. ARA'LIA PAPYRI'FERA *Hook.* RICE PAPER PLANT. (Araliàceæ.) Island of Formosa.

A stove plant; growing five to seven feet high; with greenish white flowers; appearing in winter. Bot. Mag. 1856, pl. 4897.

This is the plant from which the well known "*rice paper*" of the Chinese is manufactured, and which now for the first time, through the exertions of the Governor of Hong Kong, Sir John Bowring, and his son J. C. Bowring, has been introduced into the Kew Gardens, where it produced its fine panicles of flowers in December last. Besides the interest which attaches to the plant for its commercial value, it is said to be a most beautiful object when in full flower, as seen in Hong Kong, where it attains the height of "seven feet, with a circumference, of its terminal branches, of twenty feet, throwing out twelve to fourteen panicles three feet long, drooping like magnificent plumes, in regular form, over the large, dark, palmate leaves." It seems to be a native exclusively of the Island of Formosa, and no botanist has ever seen the plant in its native locality. By the untiring exertions of Sir John Bowring he induced the Chinese traders to procure living plants, when on their voyage to that Island for the cargo of stems to make their paper.

The plants grow from five to seven feet high, branching at the top, with a stem two to three or at most four inches in diameter, forming very little wood, filled with the most exquisitely white pith, of which the famous "rice paper" is made: leaves very large, sometimes a foot long, cordate, five to seven lobed, and covered with a more or less thick and deciduous down: flowers in small umbels, borne on tall nodding panicles one to three feet long. Nothing is said of its cultivation other than that it was grown at Kew, in a damp

stove. Perhaps, if seeds could be obtained, it might be successfully cultivated in Florida or Texas, and its "white pith" find a market here for the manufacture of rice paper, now imported from China. The attempt would be well worth trying. (*Bot. Mag.*, Feb.)

318. APHELA'NDRA VARIEGA'TA *Morel.* VARIEGATED APHELANDRA. (Acanthàceæ.) Brazil.

A stove plant; growing one to two feet high; with orange-colored flowers; appearing in winter; increased by cuttings; grown in light peaty soil. Bot. Mag., 1856, pl. 4899.

Another of the showy Aphelandras, producing large elongated spikes, resembling a narrow pine cone, but are of the richest orange red, from the scales of which proceed the bright yellow flowers. It bears a resemblance to the well known aurantiaca, and requires nearly the same treatment, viz., a light leafy soil, and the warm, close temperature of the stove. (*Bot. Mag.*, Feb.)

General Notices.

MODEL HOUSE FOR GROWING ROSES.—Some years ago a wooden glazed span-roofed house, upon a plan furnished by an experienced cultivator, was erected at Chiswick, for the purpose of growing Tea roses and similar tender varieties in the open border. A raised bed some eight feet wide was constructed in the middle, and all round the sides were other raised beds, narrower but otherwise similar. All these beds were made to throw water off easily, that in the middle by being highest in the middle, those at the sides being highest at the sides. Wooden flaps in the wooden sides and a door at one of the wooden ends furnished lateral ventilation; sliding sashes admitted light and air by the roof. The borders were prepared with good mould, and planted with the best varieties supplied by some of the most celebrated rose growers of England.

But somehow or other the roses made a bad hand of growing; their leaves curled, mildew seized them, and green-fly, and other pests; sulphur was powerless, tobacco-smoke little better. Flowers came in small quantity, opened ill, or would not open at all. In vain was the house watered, and ventilated, and shut close up according to the most approved practice; the bushes were but ragged briars, and that which was expected to prove a verdant, fragrant, luxuriant Elysium was only a shabby, dried-up, half

starved, mildewed thicket. Instead of "a garden of Gul in its bloom," as Byron would have called what was expected, nothing better came of the experiment than what might have been found in the dirty anteroom of a London bazaar.

The house was evidently unsuited to such plants, and the borders were ill contrived. No light came through the sides, although the rose is a child of light; little heat accumulated, although warmth is an essential condition of health in a tender rose; the roots were ill supplied with the moisture which such plants delight in, for the sloping surface of the beds caused it to run away into the sunken paths as fast as it was brought to them; and finally the roses could not breathe; imperfect ventilation at once stifled and starved plants which nature intends to be waved by every breeze, to be steeped in dew, and to feed greedily upon a rapidly shifting atmosphere.

So the house was emptied of its roses and altered into an orchard house, for which it is perfectly well adapted. It now produces fruit successfully, although the flowers of the rose refused to appear beneath its roof.

It chanced at this time that another wooden house stood empty near it, equally unwarmed artificially, but in other respects the reverse of the orchard house. It had tall glass sides as well as a glazed ridge and furrow roof; the transparent sides opened to the bottom; but the roof was fixed. It had been presented to the society by Mr. Hartley, the eminent glass merchant of Sunderland, as a model of a cheap greenhouse; and a model rose house it has proved itself to be.

Within this building, on a level with the floor, several flat, brick-edged beds were made, and planted with roses in 1854. As before, the sorts were supplied by Messrs. Lane, Paul, and Rivers; many of the plants were in fact transferred from their former place; and the old mode of management was repeated. But this time with very different result. No more blighting and ineradicable mildew; no more shrivelled leaves, no more dwindling, spindling growth. Vigor was apparent from the first; strong wood, as clean as it came from the hand of nature; fine broad lucid leaves, with the generous purple tinge of health in the beginning, succeeded by the richest and deepest green; and as for flowers the bushes were loaded with all they could bear. In short, success was perfect, thanks to bright light, copious ventilation, accumulated sun heat, and a soil that parted with nothing which it received, except to the plants for which what it received was intended. This was the first fruit of growing roses in a house and in soil adapted to them. But the success of the first year was nothing to that of the second.

The other day the house was piled up with gigantic roses, sweeter than the sweetest of the Eastern world; men were wheeling away barrow loads of fallen petals. Devoniensis seemed to have borrowed the shape and size of a Cabbage, and as to Fortune's Climbing Yellow China, its rich Nankin color was actually glowing with salmon. We caused some of the largest to be measured on the 3d of June. Here is the result:—

	Diameter of Flower. Inches.	No. of Flowers open.
Vicomtesse des Cazes,	5	70
Madame St. Joseph,	5½	
Princess Marie,	4½	
Devoniensis,	6	
Goubault,	4	80
Madam Guérin,	4	30
Surabondante,	5½	
Comte de Paris,	4	
Belle Allemande,	4	
Adam,	5½	
Mansais,	5	
Souvenir de la Malmaison,	5	
Comte Brobinsky,	3½	50
Cramoisie supérieure,	3½	55
Abbé Mioland,	3	55
Souvenir d'un Ami,	4	
Marshal Bugeaud,	4	
Georges Cuvier,	3	

Lovers of roses! only think of flowers in which the whole face may be buried in fragrance; of Devoniensis eighteen inches round,—of Mansais, Madame St. Joseph, Adam, and Surabondante almost as big; only conceive Madame des Cazes bursting forth into seventy such blossoms at the same time. Perhaps you may not recollect how much six inches are; cut, then, a paper circle as wide as half the length of one of our columns—carry it to your own roses, place it by their side and see the difference.

Such is the result of substituting good treatment for bad. It is clear that roses like to be well lodged, well fed, and well attended—like their betters.

And now for the receipt to make such a house as this:—

1. Let the soil be Wimbledon loam, or any such soil, and old cowdung.
2. Prune hard back at Christmas.
3. Cut off the dead flower-stalks as soon as flowering is over.
4. Water once a week in summer.
5. Give no water in winter, or at least never let the surface soil be wet at that season.
6. Let all the plants be on their own bottoms, and not worked.
7. If mildew appears, immediately dust sulphur on with a piece of gauze or coarse muslin. This is much better than "sulphurators."
8. Sulphur in the evening, and wash all off next morning. If the mildew does not go, repeat the dose as often as necessary.
9. Give tobacco smoke once a week when the roses are growing.
10. Give air to the utmost of your power, always by day; and at night also if the weather is warm.
11. But shut up close at night if cold, and keep close the ventilators next a sharp east wind.
12. Never shade.

Such is the way to grow tender roses well in England.—(*Gard. Chron.*, 1856, p. 403.)

THE BEST WAY TO FORCE STRAWBERRIES.—The world is assured by men of "much experience" that the Strawberry Grower must take care how he forces that fruit. "Strawberry plants intended for forcing should be two years old."—"Pot runners in August, pinch off all the flowers the next year, and force them in the second."—"Never use any but stools of two years' standing."—"Strong plants may be taken out of the ground and forced immediately."—"Root your early runners in small pots; afterwards carefully shift them into larger." Such are the stereotyped directions of *practical* gardeners. Care must also be taken that the pots are big enough. "Twenty-fours (8-inch) are what you *should* have; but for small sorts you may make shift with thirty-twos (6-inch)."—"Nine or 10-inch pots are indispensable."—"Take care that the pots are sufficiently large to hold three plants, for fear that one or two should go off."—"For small sorts 4½ inch pots will do; but for others they must be 5 inches or even 6½ inches in diameter." Thus we are told in gardening books must we treat the strawberry if it is to be forced successfully. Neglect these precautions, and the blindness of some plants or the flowerless condition of others is explained.

Can it be really true that so much fuss is necessary in so very small a matter as getting a few strawberries ripe in May? Will nothing less than two years' coddling, and pots as big as a hat crown, furnish this fruit a few weeks before its natural season? And are gardeners excusable for losing their crop because they have not been two years in their place, or because the pots are not of the regulation size? Let us see.

In the garden of the Horticultural Society, in the year 1855, Mr. Gordon caused runners to be taken up from the ordinary plants in the open borders in the first week in August, and potted in 2½-inch pots (small 60s); the soil used was a mixture of rotten cow dung and loam (quarter dung, three-quarters loam.) When potted they were placed in a close frame until established, and when the roots had filled the little pots, which was in about four or five weeks, the plants were shifted in the same kind of soil as before into 4-inch fruiting pots (48s). They were afterwards transferred to a fully exposed situation in the open air, where they remained until the first week in December, at which time they were removed to a border in an unheated orchard house, where they were kept rather dry during winter. On the 14th of March the pots were removed to the front shelf in a Curvilinear vinery, kept at a temperature of 40° until the middle of April, when the temperature was raised to 55°. The plants were watered twice when the fruit was fairly set at an interval of three days, with a weak liquid manure, made with half-rotted cow-dung and water, allowed to stand a few days before using.

And what was the result of this simple common sense operation, unassisted by two years' preparation, big pots, and other etceteras of *practical* Strawberry growing? The result was a large, abundant crop of excellent

fruit, much of which was as large as is usually produced in the open ground; the quality was as good as possible in good varieties: as for indifferent sorts, their bad quality was exactly what it always is—neither better nor worse.

Specimens of this mode of cultivation, just beginning to ripen, were shown in Regent Street on the 27th of May. The average number of perfect fruits, ripe and ripening, on each plant, was as follows:—Keens' Seedling 26, Myatt's Eliza 24, Hericart de Thury 29, Princess Alice Maude 33, Cole's Prolific 37, Ingram's Prince of Wales 45, Hooper's Seedling 45, Royal Pine 49, Reine Hortense 56, Cuthill's Black Prince 79.

Thus it appears that it is possible in strawberry forcing to save half the time, half the quantity of earth and manure, half the space occupied in the forcing house, and much of the cost of pots and labor, without in any way diminishing the quantity or quality of the fruit.

The strawberry is not the only garden crop to which this principle is more or less applicable. Blind routine may be beaten in more ways than one. (*Gard. Chron.*, 1856, p. 387.)

Societies.

UNITED STATES AGRICULTURAL.

This Society will hold its Fourth Annual Exhibition at Powelton, Philadelphia, on the 7th, 8th, 9th, 10th, and 11th of October next.

The Schedule of Prizes has been published, and the large amount of $12,000 is offered for various Agricultural, Horticultural, and Mechanical articles. The prizes for fruits are very liberal, and as it is the desire of the Society that this Exhibition should be a fine one, it is hoped many of the cultivators of New York and Massachusetts will contribute. We publish the List of Premiums for Fruits, as follows:—

CLASS VII. FRUITS.

All fruits must be arranged on the tables by 9 o'clock, of Tuesday morning.

All fruits offered in competition must be grown by the competitor.

Fruits receiving a premium in one class cannot compete in another.

Judges may withhold premiums, when fruits of sufficient merit are not presented.

Fruits once placed on the tables are under the control of the judges, and cannot be removed until the close of the Exhibition.

Exhibitors must present to the Secretary a list of the fruit exhibited, with the names of the fruit, and a certificate when required *that the same was grown by the exhibitor.*

APPLES.—For the largest and best exhibition of named varieties, not less than three specimens of each, . . . $50

For the second best, ... 30

For the third best, ... $20
For the best thirty varieties, not less than six specimens each, . 30
For the second best, ... 20
For the third best, ... 10
For the best twelve varieties, not less than six specimens each, . 15
For the second best, ... 10
For the third best, ... 5
For the best dish of apples, of one variety, . . . 5
For the second best, ... 4
For the third best, ... 3
For the fourth best, ... 2

PEARS.—For the largest and best exhibition of named varieties, not less than three specimens of each, ... 50
For the second best, ... 30
For the third best, ... 20
For the best thirty varieties, of six specimens each, . . 30
For the second best, ... 20
For the third best, ... 15
For the best twelve varieties, six specimens of each, . . 15
For the second best, ... 10
For the third best, ... 5
For the best dish of pears, of one variety, . . . 5
For the second best, ... 4
For the third best, ... 3
For the fourth best, ... 2

PEACHES.—For the best collection of peaches, . . . 15
For the second best, ... 10
For the third best, ... 5
For the best dish, not less than twelve specimens of one variety, 5
For the second best, ... 3

QUINCES.—For the best bushel, ... 5
For the second best, ... 3

GRAPES.—For the best Native or Seedling grape, hardy, and equal or superior to the Isabella, a premium of . . . 20
For the second best, ... 10
For the best display of Isabella grapes, not less than twelve bunches, ... 10
For the second best, ... 5
For the best display of Catawba grapes, not less than twelve bunches, ... 10
For the second best, ... 5
For the best display of Native grapes, ... 15
For the second best, ... 10
For the best display of Foreign grapes, ... 15
For the second best, ... 10

Special premiums will be awarded on melons, plums, and other fruits not enumerated, if creditable specimens are presented.

CINCINNATI HORTICULTURAL.

The spring meeting for the show of strawberries, &c., took place on Saturday, June 7, at Cincinnati. Judging from the Report, which we copy below, the Exhibition was a very fine one. It will be seen that in the "Grand Sweepstakes" which was especially offered to ascertain, after all the emulation, which was the finest of all the strawberries, that Hovey's Seedling won the prize:—

STRAWBERRIES.—Best six varieties, Hovey's Seedling, Longworth's Prolific, Genesee, Washington, McAvoy's Superior, and Monroe Scarlet, one pint each, to W. E. Mears, $3.

Second best, six varieties, Prolific, Superior, Hovey's Seedling, Genesee, Hudson and Burr's New Pine, one pint each, to T. V. Petticolas, $2.

Best pint McAvoy's Superior, to John Johnson, $2.

Second best pint of Hovey's Seedling, to Wiley Bates, $1.

Best display in quality and varieties, McAvoy's No. 1, do. Extra Red, Longworth's Prolific and McAvoy's Superior, to D. McAvoy, $4.

Second best display in quality and varieties, a new Pistillate Seedling, Excelsior, a new Seedling, Hermaphrodite and Prolific, to Schnike, $2.

SPECIAL PREMIUMS.—Best two quarts Longworth's Prolific, to F. G. Cary, $5.

Best two quarts McAvoy's Superior, to F. G. Cary, $5.

GRATUITIES.—Best two quarts of Hovey's Seedling, to J. C. Youtsey, $5.

For Hovey's Seedling, to John C. Youtsey, $2.

For Hovey's Seedling, to Mackintosh, $1.

For McAvoy's Superior, to A. J. Wheeler, $1.

For Longworth's Prolific, to S. Rintz, $1.

A seedling strawberry from T. L. Weltz, from Hautboy, of good flavor, productive and uniform in shape, but small. Seedling strawberries, from Geo. H. Heinshein, generally of good flavor, particularly a Hautboy, of a rich aroma and taste, but quite small.

GRAND SWEEPSTAKES.—For the best four quarts of any variety, the premium of $10 was awarded to John C. Youtsey, of Campbell county, Kentucky, the variety being "Hovey's Seedling."

This latter premium was the test of superiority among all varieties, hence Hovey's Seedling has borne the palm of honor.

CHERRIES.—Best pint, Early May, to M. McWilliams, $2.

Second pint, Early May, to Wm. Orange, $1.

APPLES.—For good natural preservation of apples, Pryor's Red, Romanite, White Pearmain, and Yellow Newtown Pippin, to T. V. Petticolas—Gratuity, $1.

For excellent natural preservation of apples, Baldwin, Rawle's, Jannet, and Jonathan, to J. E. Mottier—Gratuity, $1.

A number of apples, preserved by an artificial process, eight months beyond their season, were exhibited by John C. Schooley. Their flavor was

either not so well preserved as the above, or they had not been put up, or subjected to the plan, when in good condition.

Bellflowers, preserved by a peculiar process, by Peregrine Phillips, back of Newport, Ky., in fine condition, except somewhat affected by frost.

J. S. Jackson, E. J. Hooper, M. McWilliams, Robt. Reilly, Wm. E. Mears, *Fruit Committee.*

Massachusetts Horticultural Society.

Saturday, May 24, 1856.—*Exhibited.* FLOWERS: Fine displays of cut flowers from Messrs. Rand, Barnes, Page, Breck & Son, Story, Nugent, Copeland and others. J. F. Allen exhibited twelve flowers, including several seedlings of the fragrant and beautiful Nymphæa cærulea. C. F. Jones sent two fine orchids, Dendróbium calceolus. W. C. Strong had a specimen of Clematis lanuginosa pallida.

AWARD OF PREMIUMS AND GRATUITIES.

TULIPS.—For the best twenty varieties, to J. Breck & Son, $5.

GRATUITIES.—To C. F. Jones, fine orchids, $5.

To E. A. Story, fine flowers, $4.

To E. A. Story, for the same, $3.

To E. S. Rand, Jr., for the same, $3.

To M. B. Williams, J. Breck & Son, Jas. Nugent, T. Page, and J. F. Allen, $2 each.

To W. E. Carter, R. M. Copeland, T. Smallwood, and M. R. Richards, $1 each.

FRUITS.—From S. Bigelow, fine Black Hamburgh and Muscat of Alexandria grapes. From J. F. Allen, fine Hunt's Tawny nectarines, figs, &c. From C. S. Holbrook, a fine show of peaches. From Mrs. John Hovey, extra large lemons. From W. C. Strong and J. Breck & Son, fine grapes.

VEGETABLES.—J. F. Allen exhibited fine tomatoes. Fine asparagus from T. Page and Geo. Everett. Cucumbers from James Murray.

May 31.—*Exhibited.* FLOWERS: Fine display of cut flowers from T. Page, Jas. Nugent, W. J. Underwood and others. Breck & Son sent some rare and beautiful potentillas; E. S. Rand, Jr., some fancy pansies, and W. E. Carter, anemonies and ranunculus.

June 7.—*Exhibited.* FLOWERS: The display was very fine, and embraced a great variety of azaleas, tree pæonies, rhododendrons, &c. Of pæonies, the stands of the President, M. P. Wilder, Hovey & Co. and J. Breck & Son, contained very beautiful collections. Messrs. Breck & Son exhibited a new variety,—flower well formed—color deep rose—a valuable acquisition. A seedling raised by the President, Mr. Cabot, in the opinion of the Committee, gave promise of being one of the best yet produced; color white, dotted, and marked at the base of the petals with crimson;

flower large, and finely developed. W. J. Underwood sent a collection of native plants, including twenty-nine species of Convallaria, Trillium, Cypripedium, Houstònia, Viburnum, &c.

AWARD OF PREMIUMS AND GRATUITIES.

HAWTHORNS.—For the best display, to E. A. Story, $3.
For the second best, to J. A. Kenrick, $2.
HARDY AZALEAS.—For the best display, to Hovey & Co., $6.
For the second best, to E. A. Story, $4.
For the third best, to J. A. Kenrick, $3.
SHRUBBY PÆONIES.—For the best six, to M. P. Wilder, $5.
For the second best, to J. S. Cabot, $4.
For the third best, to J. Breck & Son, $3.
GRATUITIES.—To Hovey & Co., for pæonies, $3.
To T. Page, E. S. Rand, Jr., P. Barnes, Mrs. W. J. Underwood, W. J. Underwood, Galvin & Hogan, Jas. Nugent, J. S. Cabot, and J. F. Allen, $2 each.
To Geo. Dodge, and Mrs. Wm. Ashley, $1 each.

June 14.—*Exhibited.* FLOWERS: Fine collections of cut flowers were sent by T. Page, Galvin & Hogan, P. Barnes, W. C. Strong, E. S. Rand, Jr., W. E. Carter, and others. Messrs. Breck & Son had fine specimens of Iris Susiana and Delphinium Hendersòni. Bonard Dennis, a fine plant of Indigofera decòra. R. M. Copeland, beautiful bloom of Wistària sinènsis. J. F. Allen, a handsome orchid, Oncidium Bauèri.

AWARD OF PREMIUMS AND GRATUITIES.

RHODODENDRONS.—For the best display, to E. S. Rand, Jr., $6.
For the next best, to Hovey & Co., $4.
AQUILEGIAS.—For the best, to E. S. Rand, Jr., $5.
For the second best, to P. Barnes, $3.
For the third best, to J. Breck & Son, $2.
GRATUITIES.—To J. F. Allen, for orchid, $2.
To W. J. Underwood, and R. M. Copeland, $1 each.

June 21.—*Exhibited.* FLOWERS: The exhibition of roses took place for premiums; but owing to the season being much later than usual, there was not a great display; several of the largest cultivators did not exhibit a single flower. The pæonies, however, were exceedingly splendid, by far the finest ever seen in the room, and were just in perfection. Cut flowers were exhibited in variety, from Messrs. Breck & Son, M. P. Wilder, P. Barnes, E. S. Rand, Jr., J. Nugent, W. C. Strong, Galvin & Hogan, and others. Messrs. Burr sent a new plant, which was probably a Pentstemon, from Columbia River. Messrs. Hovey & Co. sent superb specimens of Kalmia latifolia, hardy azaleas, rhododendrons, and 15 varieties moss roses. The names of the pæonies which obtained the first prize were as follows: Arsene Murat, Festiva, Ne Plus Ultra, Papaveriflora, Triumph du Nord, Festiva Maxima, Francis Ortegal, Prince Prosper d'Aremberg, Sinensis Delachii, and fulgida, the last four all new dark colored varieties of great beauty.

AWARD OF PREMIUMS AND GRATUITIES.

HERBACEOUS PÆONIES.—For the best 10, to Hovey & Co., $5.
For the next best, to J. Breck & Son, $4.
For the next best, to M. P. Wilder, $3.
HARDY ROSES.—Class I. For the best 30 distinct varieties, to M. P. Wilder, $8.
For the next best, to Evers & Bock, $6.
For the next best, to J. Breck & Son, $4.
For the next best, to Galvin & Hogan, $3.
Class II. For the best 12, to W. C. Strong, $5.
For the next best, to J. Breck & Son, $3.
For the next best, to E. S. Rand, Jr., $2.
Class III. Perpetual Roses.—For the best 10 varieties to M. P. Wilder, $5.
For the next best, to W. J. Underwood, $4.
For the next best, to Galvin & Hogan, $3.
PINKS.—For the best six, to J. Breck & Son, $5.
For the second best, to P. Barnes, $3.
GRATUITIES.—To M. P. Wilder, for roses, $3.
To P. Barnes, Hovey & Co., T. Page, W. C. Strong, and E. A. Story, for displays of flowers, $3 each.
To J. Breck & Son, W. E. Carter, E. S. Rand, Jr., Galvin & Hogan, W. J. Underwood, J. A. Kenrick, Evers & Bock, J. Nugent, and Miss Russell, $2 each.
To Messrs. Burr, for new Pentstemon, $2.
To E. S. Rand, Jr., for native plants, $2.
To B. Dennis, for anemonies, $2.
To P. Barnes, M. P. Wilder, W. C. Strong, and J. G. Chaffin, for roses, $1 each; and J. F. Allen, Mrs. Ashley, E. S. Rand, Jr., and Miss Kenrick, for flowers, $1 each.

Horticultural Operations

FOR JULY.

FRUIT DEPARTMENT.

June has been an exceedingly variable month, with scarcely two days of similar weather, the thermometer ranging nearly 100° on one day, and from 60 to 40° on the next. Frequent rains have kept the ground moist, so that vegetation has been rapid, and made up for the cool nights of the earlier part of the month.

With the advance of the warm season, and now that all planting is over, attention should be directed to the various fruits which require attention. Pruning and training grapes will occupy much time where there are

many hardy vines, and if choice bunches are wanted thinning the berries and bunches. Fruit trees should be summer pruned, and disbudding looked after. Insects should not be forgotten, and destroyed where they are becoming troublesome.

GRAPE VINES in the greenhouse will now be ripening their fruit, and, by the end of the month, will nearly all be cut. Attend to the airing of the houses both night and day, as it ripens the wood, on which depends the excellence and abundance of next year's crop. Allow the laterals to ramble more freely now, only topping them sufficiently to prevent too much shade if there are plants in the house. In cold houses the grapes will now need care: finish the thinning as soon as convenient, and attend to the airing, especially in changeable weather,—a little neglect might result in much injury. Damp the walks freely in hot weather.

FRUIT TREES should be summer pruned this month; grafted trees will require looking after, and have the ties loosened.

RASPBERRIES, as soon as they are done bearing, should have the old wood all cut away.

STRAWBERRY BEDS, two years planted, should immediately have attention; dig in the old roots, in order to allow the young runners from each side to fill the space. It is a good time to prepare ground to plant next month. Beds made in April or May should have all the runners laid in at equal distances, and the others should be cut away.

BUDDING should be commenced towards the close of the month, according to the weather; if wet it may be delayed, but if dry commence early.

FLOWER DEPARTMENT.

The planting and bedding out all done, attention should be directed to the preparation of such plants as are needed for next winter's flowering. Repot and plunge all intended for this purpose, and propagate verbenas and other similar flowers. Plunging the plants saves a great deal of labor in watering, and, at the same time, gives them additional vigor by preventing the sudden alternations of dryness and moisture. Our hot sun is very severe upon plants of all kinds, and thousands are injured or destroyed every year from the want of liberal waterings. Wherever there is not an abundant supply of water, it is almost impossible to keep plants in a vigorous condition, and the first thing which should be secured is a plentiful supply. We do not believe one garden in one hundred is properly watered. A good garden engine, such as we described in our June number, is an indispensable article in every garden, however small.

PELARGONIUMS will now have nearly completed their flowering, and unless some late blooms or late potted plants, should all be headed in, and the cuttings put in for a fresh stock.

CHRYSANTHEMUMS will now be growing rapidly, and will require repotting immediately. Stop the main shoots, and plunge the plants in the open border in any place, giving each plant plenty of room.

CHINESE PRIMROSES should be repotted now and kept in a cool place. Sow seeds for next year's stock and propagate the double sorts by cuttings.

Cinerarias will soon need repotting; sow seeds for raising a fresh stock.

Monthly Carnations, layered last month, should be taken off and planted in a rich well prepared bed.

Roses, intended for flowering in pots, should be plunged in the ground and kept rather dry. Now is the time to increase them by layers or cuttings.

Neapolitan Violets should be divided and reset for next winter's blooming.

Oxalis hirta should be potted this month.

Climbing Plants should be trained up neatly, and all useless or crowded shoots cut away.

Cactuses, done blooming, should be headed in and repotted.

Mignonette and Sweet Alyssum should be planted in pots or boxes for blooming next winter.

Azaleas may be propagated from cuttings of the young, partially ripened wood.

Salvias, Eupatoriums, Stevias, Scarlet Geraniums, &c., for blooming next winter, should be repotted, plunged in the ground and mulched with tan.

FLOWER GARDEN AND SHRUBBERY.

The flower garden should now be in its height of bloom, and present a gay and brilliant appearance. As nothing tends to mar its enjoyment so much as weeds, they should never be allowed to grow, and every spot of dug ground should not only be clean, but raked smooth and level. If dry weather sets in, resort to a few good waterings to keep up the health of the plants. Roll and rake the walks, and mow the lawn at least every fortnight.

Tulips and other early flowering bulbs should be taken up immediately, and their place filled with asters, balsams, &c., from the reserve ground.

Biennial and Perennial Flower Seeds may be yet planted.

Dahlias will require attention. Carefully stake every plant, if not already done, and keep them pruned of superfluous wood.

Hollyhocks should be tied to stout stakes, and, if the weather is dry, they should have a liberal watering.

Roses may be increased by layering the shoots of the present year.

Pansies should be abundantly supplied with water in dry weather.

Pinks may now be increased by pipings.

Carnations and Picotees should have their flowering shoots tied up neatly, and as soon as they have done blooming the shoots should be layered for a fresh stock of plants.

Daisies should now be taken up, divided and reset, selecting a cool, half shady situation.

Primroses, of the double sorts, may be divided and reset, choosing a half shady, moist place.

Asters, Balsams, &c., grown in frames, may now be set out to fill up vacant places in the border, where spring flowering bulbs have gone out of bloom.

A FEW WORDS FOR THE HERBACEOUS PLANTS.

All plants, whether hardy or tender, herbaceous or shrubby, bulbous or tuberous, have their several beauties, which the real lover of flowers readily appreciates, by a standard not artificial, but of nature's own decreeing. To him the modest little Violet is no less an object of admiration than the regal Dahlia, and the tiny Forget-me-not, as endeared as the beautiful Rose. Flower succeeds flower, week after week and month after month, ever presenting some new form or peculiarity of growth, and though some kinds may be more fancied than others for their brilliancy of coloring, their delicious odor, the long time they remain in bloom, the ease with which they are cultivated, their hardiness, or their effect in the arrangement of a parterre, yet each and all are to the true lover of nature ever beautiful. In the language of a peasant poet,—

> "There's many a seeming weed proves sweet,
> As sweet as garden flowers can be."

It is not expected that all will look upon a flower with the poet's eye, who sees not only the simple form and color, but whose imagination clothes each with a thousand associations, adding beauty and interest to every object. Yet we cannot feel that they who single out some dozen kinds of plants, upon which they devote all their care, neglecting entirely all others, can know that true delight which springs from a genuine love of flowers, whether cultivated or wild, whether found in garden or field, decorating the palace, or embroidering the woodside.

Fashion, which holds such potent sway, rules even in the floral world, and often retards the progress of true taste by the blind devotedness of her followers. Just now she bids us deck our gardens in brilliant masses of scarlet to such an extent as to well merit the inquiry "whether a red cloak is more elegant than an embroidered shawl?" We must not,

however, have it understood that we object to bedding plants, or masses of fiery colors; what we would say, is, that all gardens or even any one garden, should not be wholly planted in this way. We admire masses of colors tastefully arranged with a knowledge of the combination of tints; it is what we have recommended and what we still recommend,—saving this, that everybody is not to follow out the plan without regard to the arrangement of their grounds, their extent, their situation, &c. What would be effective and brilliant in a beautifully laid-out parterre, with box edgings and neat gravel walks, looked down upon from a terrace, bay window or piazza, would be certainly out of place on a smooth and verdant lawn, embowered with magnificent specimens of ornamental trees. So, too, in gardens of small extent; an attempt at the massing system is almost sure to end in a failure. Thus it may appear, as it truly is,—difficult to know what mode of arrangement is best suited to a place; true taste must suggest and in fact be the only guide; but when this is sacrificed to fashion, the real effect of a fine garden is entirely destroyed.

But we have almost been led astray from our main object, which was to speak a word for the too much neglected herbaceous plants, many of the old favorites of which are disappearing from our gardens to make room for verbenas, scarlet geraniums, and other showy flowers. Where are the stately foxgloves, with their tall spikes of nodding bells, displaying their leopard-like spotting, in which the bee

——— "makes her sweet music?"

These are now rarely seen, though extremely showy; with the improvement which has been made in the origination of new sorts, they are truly elegant.

The Columbine (Aquilegia) too, in its variety of colors, is becoming more rare every year; and our beautiful native species, A. canadensis, whose pendent scarlet and yellow flowers enliven many a hill-side in June, has ever been scarce in cultivated grounds.

The Sweet Rocket, (Hesperis) except in its old single state, which, though pretty, does not compare with the dou-

ble, is not often seen: the double is one of the sweetest of herbaceous plants, and as beautiful as it is fragrant. Canterbury Bells, Ragged Robin, Lychnis, Monkshood, Honesty, &c., are more of the old favorites.

These we name as a few of such as were once common, indeed almost the only kinds in some gardens, but now rarely seen, only as we recede from the places where fashion holds her sway, in the neighborhood of splendid villas, to the cottage in the country, where, tended by fair hands, yet happily ignorant of the Whitlavia, Eucharidium, and similar hard named and far less beautiful flowers, they flourish and display their familiar forms and colors.

With the progress of floriculture the herbaceous plants have not been entirely neglected. There are some who, knowing their merits, duly appreciate them, and devote their time to their improvement. Both French and English cultivators have done so to a great extent, particularly the French. Witness the Phlox, which now numbers its hundreds of varieties of every shade and form, flowering early and late, and whose massive spikes of flowers are the most beautiful ornaments of the garden from June to October. The Larkspur is another tribe: what variety and intensity of coloring has been achieved in some of the varieties of recent introduction. And the Hollyhock, scarcely the same flower once almost banished from the garden for its coarse foliage and spikes of single flowers. Even the old but yet no less beautiful Sweet William, in the hands of the florist, has been greatly improved, and appears with a distinctness of pencilling rivalling the Picotee. But we have no space to enumerate all the plants which, though neglected by many, have occupied the labors of others until they have been brought up to that higher standard which cultivated taste erects, and whose claims upon those who banish nature's flowers, because of their simple beauty, are now fully entitled to recognition.

It is the fault that we overlook the smaller, more delicate, and exquisitely beautiful species and varieties in our eager desire for the large and showy; some of them common, but the greater part almost unknown in our American gardens,

and never seen only in the grounds of the true lover of elegant flowers. These are the Hepaticas (Anemone), Gentians, Epimediums, Violets, Fair Maids of France (Ranunculus), Double Primroses, Betonicas, &c., and our own native plants, Asclepias tuberosa, Trilliums, Dodecatheons, Spigelia, Anemone thalictroides, Cypripediums, &c. &c. All or any of these, added to the more popular and familiar kinds, render the garden doubly attractive, opening their blossoms from the disappearance of snow, till it covers the ground again in winter.

It is not our purpose to give a list here of all the fine herbaceous plants which may now be obtained. They may be counted by the hundred, and of those which have been elevated to the florist's standard, like the Phlox, Hollyhock, Campanula, &c., in a great number of varieties. The catalogue of any choice collection will give the names of the best. What we desire is to have every individual, who is about planting a garden, and indeed every amateur who already possesses one, to consider how varied are the objects that are within his reach, and knowing what they are, his grounds may not be a mere batch of bedding plants, such as he sees all around him, but, protesting against fashion, strive to have them enamelled at all seasons with flowers of every hue.

Let the garden be, as it easily may, what the poet describes it:—

> "From sapling trees, with lucid foliage crowned,
> Gay lights and shadows trembled on the ground;
> Up the tall stems luxuriant creepers run,
> To hang their silver blossoms in the sun;
> Deep velvet verdure clad the turf beneath,
> Where trodden flowers their richest odor breathe;
> O'er all, the bees with murmuring music flew
> From bell to bell to sip the honeyed dew."

We close with a few hints as to their cultivation. Herbaceous plants, in general, are of the simplest treatment. Most of them will grow in any common garden soil, slightly enriched by old manure, or, what is better, leaf mould. Every two years they should be taken up, carefully divided and reset; such quick-growing sorts as Phloxes, Asters, Rudbeckias,

Veronicas, Larkspurs, &c. should have more room than the others, and when coming into bloom have their stems tied up to neat stakes. If the ground is trenched they will grow the better, though this is not absolutely necessary. Many of them, if headed down directly they are done blooming, will give a succession of flowers later in the season; such as do not, should have their old stems cut away. The biennials, such as Foxgloves, Canterbury Bells, Sweet Williams, Œnotheras, Hollyhocks, &c., should be raised from seed every year, in June or even as late as August, though they will make stronger plants if sown early.

The more delicate kinds require more careful management, and are particular as to soil. The Hepaticas, Anemonies, Dodecatheons, Epimedums, Trilliums, &c., like a peaty earth, and a half shady situation, where they not only remain in bloom a much longer time, but are healthier and more robust plants; indeed, under the same cultivation of the grosser growing kinds, they frequently die out, which accounts for their being more rare. They will, however, well repay any care that may be bestowed upon them.

October is the best time to divide and reset herbaceous plants; they get well established in the ground before winter, and with a slight covering of strawy manure, or leaves, or tan, which is the best, especially for a stiff, loamy soil, they rarely suffer from the winter, and come forward much earlier and more vigorous, than if left unprotected. At another time we shall devote a chapter to the particular culture of some of the finest varieties, and gave a list of the most select, from which the amateur may readily make a good choice.

THE LITERATURE OF GARDENING.

BY WILSON FLAGG.

No. VI. Alison's Essay on the Nature and Principles of Taste.

This volume, which is now a standard work of English literature, and probably the best treatise on the nature and

sources of our emotions of sublimity and beauty that has been written in any language, treats of the embellishment of grounds collaterally, but so fully as to be considered an important addition to this department of literature. We shall follow the author in our abridgment of his remarks, nearly in his own words. There is no man of common taste, he remarks, who has not often lamented that confusion of expression which so frequently takes place, even in the most beautiful scenes of real nature, and which prevents him from indulging, to the full, the peculiar emotion which the scene itself is fitted to inspire. The cheerfulness of the morning is often disturbed by circumstances of minute or laborious occupation, the solemnity of noon by noise and bustling industry, the tranquillity and melancholy of evening, by vivacity and vulgar gaiety. It is seldom even that any unity of character is preserved among the inanimate objects of such scenery. The sublimest situations are often disfigured by objects that we feel unworthy of them,—by the traces of cultivation, or attempts towards improvement,—by the poverty of their woods or of their streams, or of some other of their great constituent features. The loveliest scenes, in the same manner, are frequently disturbed—by the signs of cultivation, by regularity of inclosures, the traces of manufactures, and, what is worse than all, by the embellishments of fantastic taste. Amid this confusion of incidents the general character of the scene is lost; we scarcely know to what class of objects to give our attention; and we at last busy ourselves with imaginary improvements, by removing, in the mind's eye, every feature that serves to interrupt its expression and to diminish its effect.

What we thus attempt in imagination it is the business of the art of gardening to execute; and the great source of the superiority of its productions to the original scenes in nature, consists in the purity and harmony of its composition, in the power which the artist enjoys, to remove from the landscape whatever is hostile to its effect, or unsuited to its character, and to select only such circumstances as accord with the general expression of the scene. It is by this rule, accord-

ingly, that the excellence of all such compositions is determined. In real nature we forgive slight inaccuracies, or trifling inconsistencies: but in such productions of design we expect and require more perfect correspondence. Every object that is not suited to the character of the scene, or that does not strengthen the expression by which it is distinguished, we condemn as an intrusion, and consider as a reproach upon the taste of the artist. But when the hand of the artist disappears, and the embellishments of his fancy press themselves upon our belief, as the voluntary profusion of nature, we immediately pronounce the composition perfect—we acknowledge that he has attained the end of his art.

In the forms of ground, of water and of vegetation, it is difficult to find any instance of a perfectly simple form, or one in which lines of different descriptions do not unite. It is obvious, however, that such objects are not beautiful in a great proportion, and that in all of them there are cases where this mixture is mere confusion, and in no respect beautiful. It will be found in general that it is some determinate character or expression perceived in them that constitutes the beauty of these objects. Amid a great extent of landscape, there are few spots in which we are sensible of any beauty in their original formation; and wherever such spots occur, they are always distinguished by some prominent character—as of greatness, wildness, gaiety, tranquillity, or melancholy. As soon as we feel the expression of the scene, we immediately become sensible that the different forms that compose it are suited to this character. All this beauty of composition, however, would have been unheeded if the scene itself had not some determinate character.

In the laying out of grounds, every man knows that the mere composition of similar and dissimilar forms does not constitute beauty; that some character is necessary, to which we may refer the relation of the different parts; and that where no such character can be created, the composition itself is only confusion. It is upon these principles, accordingly, that we uniformly judge of the beauty of such scenes. If

there is no character discernible, no general expression, which may afford our imaginations the key of the scene, although we may be pleased with its neatness, or its cultivation, we feel no beauty whatever in its composition.

Speaking of the blending of uniformity and variety, the author remarks that there is obviously in the forms of ground no certain proportion of these qualities, which is permanently beautiful. · The same degree of uniformity which is pleasing in a scene of greatness or melancholy, would be disagreeable or dull in a scene of gaiety or splendor. The same degree of variety which would be beautiful in these, would be distressing in the others. By what rule, however, do we determine the different beauty of these proportions? Not surely by the composition itself; else one determinate composition would be permanently beautiful; but by the relations of this composition to the expression or character of the scene; by its according with the demand and expectation of our minds; or by its being suited to that particular state of attention or of fancy, which is produced by the emotion the scene inspires.

In the formation of beautiful groups of trees the same adherence to expression is necessary; and whatever may be the character of the group, the real limit to variety is correspondence in this expression. The permanent character of trees arises from their form or their color. So far as form is concerned, forms of different character are never found to unite, or to constitute a beautiful composition. A mixture, for instance, of the light and upright branches of the almond with the falling branches of the willow, the heavy branches of the horse-chesnut, and the wild arms of the oak, would be absolute confusion, and would be intolerable in any scene where design or intention could be supposed. The mixture of trees, on the other hand, that correspond in their forms, and that unite in the production of one character, are found to constitute beautiful groups; we speak of them, accordingly, as beautiful from this cause. When we meet with them in natural scenery, we are pleased with the fortunate, though accidental connection, and we say,

that they could not have been better united by the hand of art. When we meet with them in cultivated scenes, we praise the taste of the artist, and say that the composition is pure and harmonious.

In natural scenery the colors of the great ingredients, ground, water, wood, rocks and buildings, are very different, and are susceptible of great varieties. In every scene, however, which is expressive, we look for and demand an unity in the expression of these different colors. They may be too rich, too solemn, or too cheerful for the rest of the scene. The vivid green, for instance, which is so pleasing in a cheerful landscape, would ill suit a scene of melancholy or desolation. The brown heath, which so singularly accords with scenes of gloom or barrennesss, would be intolerable in a landscape of gaiety. The grey rock, which throws so venerable an air over grave or solemn scenes, would have but a feeble effect in scenes of horror. The blue and peaceful stream, which gives such loveliness to the solitary valley, would appear altogether misplaced, amid scenes of rude and savage majesty. The white foam and discolored waters of the torrent alone suit the wildness of their expression.

In the infancy of society, when art was first cultivated, and the attention of men first directed to works of design, it is natural to imagine, that such forms would be employed in those arts which were intended to please, as were most strongly expressive of design or skill. The art of gardening seems to have been long governed by this same principle. When men first began to consider a garden as a subject capable of beauty, or of bestowing any distinction upon its possessors, it was natural that they should endeavor to render its forms as different as possible from that of the country around it; and to mark, to the spectator, as strongly as they could, both the design and the labor which they had bestowed upon it.

Irregular forms, however convenient or agreeable, might still be the production of nature; but forms perfectly regular, and divisions completely uniform, immediately excited the belief of design, and, with this belief, all the admiration which follows the employment of skill, or even of expense. That

this principle would naturally lead the first artists in gardening to the production of uniformity, may easily be conceived, as even at present, when so different a system prevails, the common people universally follow the first system; and even men of the best taste, in the cultivation of waste and neglected lands, still enclose them by uniform lines, and in regular divisions, as more immediately signifying what they wish should be signified—their industry or spirit in their improvement.

As gardens, however, are both a costly and permanent subject, and are consequently less liable to the influence of fashion, this taste would not easily be altered; and the principal improvements which they would receive, would consist, rather in the greater employment of uniformity and expense, than in the introduction of any new design. The whole history of antiquity, accordingly, contains not a single instance where this character was deviated from, in a spot considered solely as a garden; and till within this century, and in this country (England) it seems not anywhere to have been imagined, that a garden was capable of any other beauty than what might arise from utility, and from the display of art and design. The additional ornaments of gardening have in every country partaken of the same character, and have been directed to the purpose of increasing the appearance and the beauty of design. Hence jet-d'eaus, artificial fountains, regular cascades, trees in the form of animals, &c., have in all countries been the principal ornaments of gardening. The violation of the usual appearances of nature, in such objects, strongly exhibited the employment of art.

The variety which distinguishes the modern art of gardening in Great Britain, beautiful as it undoubtedly is, appears not to be equally natural to this art as it might be shown to be to others. It is at least of very late origin. It was to be found in no other country, until English taste set an example; and the ancients never seem to have imagined that the principle of variety was applicable to gardening, or to have deviated in any respect from the regularity or uniformity of their ancestors. Hence the author thinks the modern taste in gar-

dening, or what Mr. Horace Walpole very justly calls the art of creating landscape, owes its origin in a great measure to the inferiority of the scenery of Great Britain to that which the English people were accustomed particularly to admire. Their first impressions of the beauty of nature had been gained from compositions in the art of painting which delineated the more beautiful scenery of the South of Europe; hence they were gradually accustomed to consider them as the standard of natural beauty.

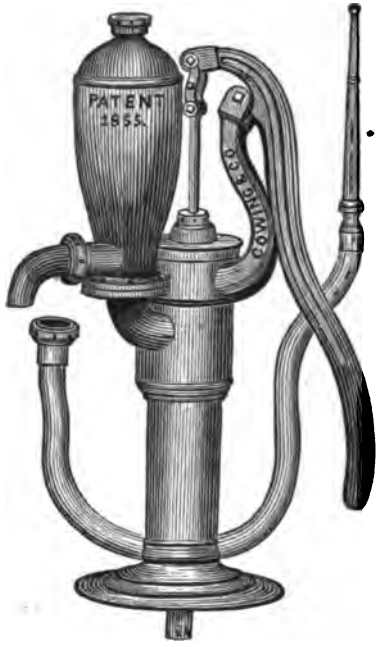
With these impressions, it was very natural for the inhabitants of a country, of which the scenery, however beautiful in itself, was yet in many respects very different from that which they were accustomed to consider as solely or supremely beautiful, to attempt to imitate what they did not possess; to impart, as it were, the beauties which were not of their own growth; and, in fact, to create, according to Mr. Walpole's vigorous expression, that scenery which nature and fortune had denied them.

We shall follow the author no farther in his remarks, as we have given sufficient to show the general tone of his sentiments, which are rather too abstract to be generally interesting. His object was not to lay down practical rules for improvement, but to suggest those general principles upon which all improvements should be founded. Without such general principles it is idle to pursue any course of practice; since in all arts whatsoever, the practitioner, who has the most thorough understanding of the theoretical part of his art, will, other circumstances being equal, be the most successful in the practice of it.

A GARDEN OR CONSERVATORY PUMP.

In a recent article describing a new garden engine, we alluded to the importance of a more liberal and judicious use of water for garden purposes. Referring to that as an exposition of our views of the necessity of having a ready

command of this element in all successful gardening, we have only to recommend the best modes or most labor-saving means of distributing it. The Garden Engine was one. We now present an engraving, (FIG. 20,) of a garden, greenhouse, or conservatory pump, to be placed in the most accessible situation in the former, and in the back sheds of the latter, or even in the interior of the houses, when their construction is such as will admit of its being put up under the stage, where the cistern is built in the centre of the house. In cold graperies, where appearance is not of so much importance, it may be placed in the middle of the house, over the cistern, from whence water may be thrown to any part of it, unless more than one hundred and fifty feet long, thus dispensing with both the garden engine and the syringe in the grapery, saving a vast amount of labor, and thoroughly doing the work so often only half performed by hand. For greenhouses and conservatories it is indispensable, wherever neatness and clean and healthy plants are an object. It is a foe to all mealy bugs, red spiders and other insects so troublesome to the gardener. The manufacturers are Messrs. Cowing & Co. of Seneca Falls, N. Y., and they thus speak of this pump:—



20. THE GARDEN PUMP.

"The engraving represents a single acting force pump, of great power; and will, with the power of one man, throw water fifty feet perpendicularly, or seventy-five feet horizontally. We have full confidence in the performance of this pump, and defy competition. We have had it tested with

the best pumps in the Union, being successful in every trial, and have taken the first premium at three different State fairs during the last fall, viz., Ohio, Michigan, and Indiana.

It may be used as a common pump or as a force pump; when used as the former, the nut on the top of the air chamber should be unscrewed about two or three turns; when used with the hose, it should be screwed down perfectly tight. The piston and rod can be drawn out at the top by unscrewing the cap.

POMOLOGICAL GOSSIP.

NEW ENGLISH STRAWBERIES.—We stated in a late number of the Magazine, that several new and superior kinds of Strawberries were coming into fruit in our collection, and would afford us an opportunity of testing and describing them. The season, owing to the frequent showers of June, was favorable for the crop, and our beds, of all sorts, never bore more abundantly, or produced finer specimens. The new sorts we enumerated, among which were Admiral Dundas, Sir Harry and Sir C. Napier, were especially fine, and enabled us to show some of the most remarkable specimens ever seen in this country. EIGHTEEN of the Admiral Dundas weighed ONE POUND. None of the plants had anything more than ordinary cultivation. They were received from England in 1855, planted out on an ordinary piece of ground, not trenched nor highly manured, and were allowed to run together in one bed, our object being to test them under common culture, convinced long ago, that if a strawberry will not do well in this way, it will never become a popular variety, no matter how fine it may be under extra treatment. We are gratified to find that several of these new kinds promise all that was expected from their high reputation in England.

ADMIRAL DUNDAS.—We place this first in order, as it is the largest strawberry of all we have tried, and undoubtedly the largest ever yet produced. It is a seedling of the late Mr. Myatt, who has been so successful in producing new varieties

of this fruit, and whose British Queen has for years stood at the head of all the strawberries cultivated in Great Britain, taking the lead in the market, and carrying off the principal prizes at all the Horticultural Exhibitions. The Admiral Dundas is not quite so fine flavored a berry as the British Queen, but it ripens up more uniformly, is of a better color and larger size, although the latter has been exhibited weighing TWO OUNCES EACH. To what weight the Admiral may be produced under the same treatment we have no means of knowing, as it is a very new variety, and not generally disseminated, but we have no doubt it may be grown considerably larger than the British Queen; the latter, under the same treatment with us, that we gave the Admiral, not being half as large.

The vines have somewhat the habit of the British Queen, but are much hardier, and wintered as well as most of our American seedlings. The foliage is not very large, and allows the sun to penetrate the bed and ripen up the fruit. The fruit stems are stout, but the great size of the berries prevents them from growing erect as in the smaller kinds. It is a most abundant bearer, and all the berries are large even to the last. It may be described as follows:

Fruit very large, measuring six to seven inches in circumference, of an irregular or somewhat flattened or angular shape in the large berries, and regular and conical in the smaller ones; color, pale scarlet; seeds, yellowish, slightly imbedded; flesh, pale red, or pink, slightly hollow, with a small core in the large berries, moderately firm, and juicy, with a good but not high flavor: calyx, medium size, partially spreading.

The Admiral Dundas was first exhibited in London in 1854; again in 1855, and this year on the 21st June last, at the Royal Botanic Society's Garden. It has been awarded the highest prizes. It is a fruit of great merit.

SIR HARRY.—If the Admiral Dundas stands first for size, the Sir Harry stands first for excellence; while it is but very little smaller than the former. Taking all its qualities, we consider it the most valuable variety we have yet received

from the English cultivators, and is destined, we think, to be a general favorite. A finely executed drawing of a single plant in full fruit, said to be an exact representation, was sent us with the vines, and judging from this, no strawberry could be much larger or more prolific, the berries measuring from six to seven inches in circumference. Under the same treatment in our grounds as the Admiral Dundas, set out at the same time and growing side by side, it did not, however, quite equal in the size of its berries that variety; but it excelled it in their deep rich color, and the lusciousness of its high flavor, while it produced quite as abundant a crop. As we intend to give an engraving of this superior fruit in another number, we only briefly name its qualities here.

Fruit, very large, mostly of a coxcomb, and sometimes wedge shape, with large calyx and stout fruit stalks. Its color is deep dark red or mulberry, glossy, and ripens entire. The flesh is red, solid, fine grained, very juicy and of the most delicious fine flavor.

The Sir Harry received extra awards at the Exhibitions in London in 1854, '55, and on the 21st June, 1856.

Sir C. Napier.—This was raised, we believe, by Mr. Smith of Twickenham, London, who has for three years exhibited splendid specimens at the Horticultural Exhibitions, receiving this year, on the 21st of June, at the Regent's Park, an extra silver medal for "very superior examples." It is of large size, of a most brilliant color, exceedingly well flavored, and a most enormous bearer. Well cultivated—as it should be on account of the prolificness of the fruit stems,—in rows or hills, we think it would bear a larger crop than either of those just described. The vines are of vigorous growth, medium sized foliage, somewhat like the Admiral Dundas, and very long fruit stems, which spread out and literally cover the bed with their numerous berries. In the rich glossy scarlet color of its berries it makes a brilliant display, and greatly heightens the appearance of a dish of the various kinds of strawberries. It is a very superior variety.

Fruit, large, from five to six inches in circumference, of a flattened or coxcomb shape in the larger berries, and round-

ish conical in the smaller; color, brilliant glossy scarlet; seeds yellowish, inserted upon the surface; flesh, light pink, firm, very juicy, with a peculiar flavor much resembling the Hautbois; calyx, small, spreading.

Scarlet Nonpariel.—Only one plant survived the importation, and the runners from this were so late and weak that we could not form any accurate opinion of its qualities. It appears, however, to possess many merits. It is of very large size, handsome and pretty regularly formed, roundish conical, of a bright glossy red, coloring and ripening to the point. Flesh, pinkish white, delicate, fine grained, saccharine and rich, with a highly perfumed flavor.

The Scarlet Nonpareil is a seedling from the old Keen's seedling, impregnated with the British Queen, and partakes of the character of both parents. Its foliage resembles Keen's seedling, having the same rich glossy deep green color. It appears, also, to be quite hardy, and stands our hot sun, as indeed do all the newer English sorts, admirably.

Omer Pacha—(Ward's).—The Omer Pacha is a most excellent strawberry. Under the same cultivation as the above, that is, allowing the plants to form a compact bed, it did not prove so prolific as those varieties. Its foliage is much more abundant, larger and taller, and it requires to be grown thinner in order to show its true character. Like the Boston Pine and some other kinds, it should be cultivated in rows or hills, and will not prove unsatisfactory in close beds.

The Omer Pacha is a large handsome strawberry, intermediate between the Old Pine and British Queen, partaking of the fine scarlet color of the former and, if not superior, equal to the latter in flavor. It is an exceedingly vigorous grower, and one of the very handsomest kinds.

Fruit, large, mostly of a roundish form, but occasionally wedge shaped. It is of a bright red color; seeds yellow, slightly imbedded; flesh light colored, solid, fine grained, juicy, rich and highly flavored; calyx, medium size, reflexed.

Mr. Ward, the grower of the Omer Pacha, states that it produces fruit in long succession, but ripens the bulk of its crop just before the British Queen.

CRYSTAL PALACE—(Nicholson's.)—This is a seedling raised by the same grower who produced the Ajax, Capt. Cook, and Fillbasket. It is entirely unlike either of them, being large, with very conical-shaped berries of a most brilliant glossy scarlet color, very showy. It is of extremely vigorous growth, perfectly hardy, and requires the thin cultivation recommended for the Omer Pacha. Owing to the mass of plants in our bed it did not produce half the quantity of the Sir Harry or Admiral Dundas. In single rows, with plenty of space between, we have no doubt it would prove a superior variety.

Fruit, large, very conical and pretty regular in shape; color, brilliant glossy scarlet; seeds, slightly imbedded; flesh, light colored, firm, fine grained, juicy and high flavored; calyx, large. Mr. Nicholson writes us that it will prove one of the finest strawberries in cultivation.

NEW HAUTBOIS STRAWBERRY.—Mr. C. A. Peabody, of Columbus, Ga., who has been so successful in the cultivation of Hovey's Seedling, informs us he has raised a new seedling of great merit. He has forwarded us a drawing of the fruit, an engraving from which we shall present to our readers in another number. In his letter accompanying this he thus speaks of his new variety:—

"Having now fully tested my new seedling and being satisfied that it is a salamander in regard to heat, and a Greenlander in regard to cold, as productive as your famous seedling, larger and more beautiful, excelling Burr's New Pine in flavor, and surpassing all others in its keeping qualities, I have had an exact copy of the fruit stem, with a leaf of the plant drawn and painted, as they were growing on the bed.

"If agreeable to you I will furnish a full description to accompany an engraving of it for your Magazine."

In another letter Mr. Peabody speaks of its keeping qualities, which are so great that he sent the berries to New York, a distance of 1200 miles, and one week after they were picked they had scarcely shown any appearance of decay. As Mr. Peabody's article will give a full account of it,

including its origin, &c., we defer any further notice at this time.

HOVEY'S SEEDLING IN OHIO.—An amateur cultivator in Cleveland, Ohio, has sent us several clippings from the papers giving almost fabulous accounts of Hovey's Seedling. We copy two of them :—

Twenty to the Pound.—The Chicago Journal of the 24th June, says: "Doane & Co. deposited a basket on our table this morning, filled brim full with a dozen or so of strawberries, weighing in the neighborhood of *twenty to the pound.* They are Hovey's Seedlings, and raised at Cleveland, Ohio. Cleveland fruits bear an enviable reputation everywhere."

Thirty to the Quart.—Seeing is believing and tasting is proof positive. Sanborn, at 9 Ontario street, has Hovey's Seedling strawberries, thirty of which fill a quart measure. We beg of our readers not to take this upon our assertion, but go to Sanborn's and see the delicious sight—and buy them too. S. is in the receipt of twenty bushels per day.—*Cleveland Herald, June* 27th.

How it happens that the short distance between Cleveland and Cincinnati should make so much difference in the cultivation of this variety we are at a loss to imagine. Will some of the great strawberry growers of either city enlighten us?

STRAWBERRY CULTURE IN WESTERN NEW YORK.—The summer meeting of the Western New York Fruit Growers' Association was held at Syracuse on the 27 and 28th of June. There was a very good exhibition of fruit, and quite an attendance of members. The two days were mostly devoted to discussions upon the culture of the strawberry and other fruits. The discussion upon strawberries was very interesting, and is reported in the *Rural New Yorker* and *Country Gentleman*, from which we condense the following :—

The cultivation of the strawberry being in order, Mr. P. Barry proposed *Burr's New Pine* as one of the best varieties for amateurs. J. J. Thomas proposed the *Hooker.* W. P. Townsend the *Genesee*, and Geo. Newland, the raiser of Newland's famous Alpine, proposed the *Pyramidal Chilian.*

Mr. H. E. Hooker thought Hovey's Seedling should not be overlooked as an amateur variety.

Mr. Geo. Newland stated that the Hovey's Seedling, so much praised at Cincinnati, was not the Hovey's Seedling of Mr. Hovey, but a spurious sort, though much superior!

Mr. P. Barry thought the Bush Alpine very desirable for amateurs.

Mr. H. E. Hooker had discarded the Bush Alpines.

J. J. Thomas, named the Early Virginia or large Early Scarlet for market cultivation, and it was voted the *best for that purpose.*

Dr. Sylvester named Hovey's Seedling as the best. He also stated that "so eagerly was the fruit sought for in market, that while the Early Virginia was sold with difficulty at *one shilling* per quart, crops of Hovey were engaged three days before ripening at *double the price.*"

Mr. E. Smith, of Geneva, said, "little difference is found between the price of large or small strawberries—*both* sell the *same* per quart."

Mr. Barry thought *trenching* important.

Mr. E. Smith did not regard *trenching* of *much value.* By cultivating to a depth of *three* to *six inches*, and manuring, you will get plenty of fruit.

Mr. Thomas thought a great deal of the talk about pistillates and staminates quite useless and mere theory.

Mr. Smith never entertained the question of staminates and pistillates; it seemed to him quite unnecessary.

The most important information we can gather from the discussion is this, that all the pomologists of Europe and America, for fifty years, have labored in vain, in the production of new varieties of the strawberry. According to the standard of the Western New York cultivators, the Old Virginia is yet the most valuable strawberry! or, in other words, the best market berry—for we contend that the public are entitled to be furnished with as good fruit as amateurs, if they will pay for it,—and that no fruit can be the best for market, and not the best for general cultivation.

THE CHESTNUT AND THE BEECH.

BY WILSON FLAGG.

THE Chestnut, (*Castànea vésca,*) is a beautiful and majestic tree, valuable for the excellence of its fruit, the breadth of its shade and the durability of its timber. In many points it resembles the oak, but has a looser ramification, and spreads itself over more space, in proportion to its height. In many points it is like the beech — an allied species — having a similar foliage, and bearing its nuts in a prickly bur. In size and rapidity of growth it exceeds the oak, and is ranked with the largest of our forest trees. It is not uncommon to find the chestnut, in favorable situations, upwards of ninety feet in height in the forest. In the open plain, it is a wide-spreading tree, often exceeding its own height in diameter, surpassing in this respect almost all other trees.

The chestnut is a classical tree, having been well known to the ancients, on account of its frequency in the southern countries of Europe. To those who, early in life, were familiar with the Greek and Latin authors, those trees which are frequently named in their works, especially in the works of the poets, acquire a peculiar interest. Probably no little circumstance ever contributed so much interest to a tree, as the mention of the beech in Virgil's First Eclogue. The exile Melibœus, having been deprived of his estate by the conqueror of his country, laments his evil fortune, and congratulates Tityrus, one of his neighbors, who was unmolested and entertained his sylvan muse, under the spreading branches of a beech tree. The chestnut is hardly less frequently mentioned both by the poets and the historians. "This is the tree (says Gilpin) which graces the landscapes of Salvator Rosa. In the mountains of Calabria, where Salvator painted, the chestnut flourished. There he studied it in all its forms, breaking and disposing of it in a thousand beautiful shapes, as the exigencies of his composition required."

The foliage of the chestnut is peculiar. The leaves are large, lanceolate, tapering to a long point, and of a dark polished green. The leaves, though arranged alternately on

the branches of the present year's growth, are found clustered in stars of from five to seven or more, on the fruitful branchlets that grow from the perfected wood. Hence, when the tree is viewed from a little distance, the whole mass of foliage seems to consist of tufts, each containing a bunch of long pointed leaves, drooping divergently from a common centre. From the same centre, the catkins of male flowers come out in the same drooping and radiating manner, making this peculiarity the more conspicuous. A similar general appearance, in a less degree, may be observed in the shell-bark hickory. The chestnut is rendered still more conspicuous by the bright silvery green color of these flowers, glistening amidst the dark green foliage. In the autumn again the tree becomes just as strongly marked by its fruit, consisting of burs, resembling light green tufts scattered among the darker leaves.

The chestnut, in its ramification, resembles the red oak, sending out its branches at a wider angle, and to a greater length in proportion to its height. Its larger branches are numerous, but its spray is coarse, the terminal branches being few, and not so angular at their joints as those of the oak. The density of shade afforded by the chestnut is the consequence of the large size and closeness of growth of the leaves, which thereby compensate for the openness of the spray, like the foliage of the horse-chestnut. I have observed that the spray of most trees corresponds with the character of their fruit, the bearers of small berries or seeds having in general a more minutely divided spray, than the bearers of large berries or nuts. Hence the beech has a more finely divided spray than the chestnut, and the elm and the birch that bear a small seed, have a finer spray than the oaks and hickories that bear large seeds or nuts.

Many large chestnuts are found in different parts of the country, the value of their fruit having induced the early settlers to preserve them, while the oaks were cut down for their timber. The chestnut, though a rapid growing tree, attains a great age, and forms one of the most majestic standards, surpassed only by the elm. It is said very speedily to

pay for the labor and expense laid out on a plantation, ranking, in this respect, next perhaps to the locust. The American and European chestnut are considered varieties of the same species, the latter bearing the largest, the former the sweetest fruit.

The Beech *(Fàgus sylvàtica)* is a large spreading tree, remarkable for its bright green foliage, and its clean leaden gray trunk and branches. The shaft of this tree is commonly fluted or ribbed, and in a dense forest, these columns, rising to the height of forty or fifty feet, perfectly smooth, present a very beautiful appearance. There are extensive tracts in some of the Northern States which are wholly covered with beech trees. Their habit of throwing up suckers, and multiplying by their roots, is probably one cause of this gregarious propensity. In beech woods, the close matting of leaves that covers the ground prevents any species from being propagated by the seed, which, even if it could be planted there, would not vegetate under such a mass of foliage.

A singularity in the shape of the beech is produced by the horizontal tendency of its lower branches, while the upper ones run upwards with less tendency to spread, so as often to leave a dividing space between the upper and lower portions of the tree. But this shape is by no means general, though the tree is, for the most part, rather fantastic in its ramification, and may sometimes be seen with a collection of thick and contorted branches, comparatively short, in the centre of the tree, while the upper branches are long and divergent. It may be added that a beech tree is seldom seen alone without a growth of suckers, forming quite a conspicuous mass around the root of the tree.

A growth of beech trees on the edge of a wood, where they have grown up since a clearing, appears to fine advantage, and gives a neatness and beauty to its appearance, which could be produced by no other tree. All this is owing to a peculiar sweep of the lateral branches, and the stiff upright character of the foliage, the leaves all pointing upward and outwardly, in the direction of the branches, instead of hang-

ing loosely, and in all directions, like those of most other trees. A similar habit is observed in the foliage of the black and yellow birches, with this difference—that while the leaves of the birch grow singly in rows on each side of the branches, those of the beech are in stars of three and five or more, on the extremities of the fruitful branchlets, arranged alternately on each side of the boughs. There is another resemblance between the beech and the yellow birch, in the character of their spray as well as of their foliage, but the birch is superior to it in general comeliness and grace.

The majority of deciduous trees have a drooping foliage. The want of this habit in the foliage assists in giving its peculiar appearance to the beech tree. Hence, although, on examination, the leaves of the beech and of the chestnut are found to be similar, yet as the one bears them erect, while the other bears them in a drooping manner, the two trees have no general resemblance on a distant view. Gilpin complains of the beech, on account of the heaviness of its appearance. It seems to me, on the contrary, as more remarkable for a certain airiness, sending out its branches, with a peculiar divergency, seldom in masses, but in such a manner, that its ramification and spray are apparent when the tree is in full foliage. In most other species it is so heavy and flowing that one cannot easily trace the direction of the branches amidst the drapery of leaves. This is particularly the case with the chestnut, the rock-maple and the lime. There is a singular gracefulness in the spray of the beech, especially when the tree is young; and the foliage, by harmonizing with the spray, allows it to be discerned and adds to its grace. It must be admitted, however, that as the beech tree increases in size, it loses some of its beauty by the twisting of its branches, and their divergency at many irregular angles.

Writers in general speak of the beech as affording an extraordinary depth of shade. This, if true, must be owing to the multitude of its branches; for it seems to me that several other trees have a greater density of foliage. The branches of the beech are not only minutely subdivided, but they

spring out from the lower part of the trunk of the tree, giving it, as it were, two tiers of branches and foliage. In real density of foliage it is surpassed by the rock maple, the lime, and the chestnut. In beech woods, however, the depth of the shade is very apparent, from whatever cause it may arise. It seems to me not remarkable in the standard trees; and it may be attributed in the deep woods to the kindliness with which the branches of the different trees interlace without interfering with the growth of the spray or the foliage.

The habit of the beech to produce mosses and lichens upon the surface of its trunk, has been noticed by the earliest writers: it is also a matter of common observation with those who have made use of beech wood for fuel. This growth of cryptogamous plants is undoubtedly owing to the depth of the shade and the moisture of the atmosphere, thus preserved in the interior of a beech forest. This tree in autumn is not remarkable for the tints assumed by its foliage; it seldom has any other tint than yellow, except as this yellow fades into brown; and the leaves are not equally tinted as in some of the hickories and birches. The beech is found to flourish best in a soil that is moist and rocky, but not of a barren nature. It is rapid in its growth under these circumstances; but it is not a long lived tree; and individuals of a large size are apt to be hollow from the decay of the heartwood. If I were to give directions with regard to the spots in which the beech tree should be planted, both for utility and ornament, I would not select an open field or lawn, nor the enclosures of the dwelling-house. It would be objectionable in either place on account of its suckers, and, besides, it forms a very beautiful copse, while it is but an indifferent park tree. I would plant it on the crumbling banks of certain water courses, where it would insert its roots into the fragile soil, and prevent it from washing away or breaking down, by the multitude of its roots and suckers, and would crown the banks and the hillside with a beautiful grove and an agreeable shade.

It is a general opinion that the beech tree is never struck by lightning. If this be true it must be owing to some su-

periority of the tree as a conductor of the electric fluid, causing it to pass down through the sap, without injuring the tree. This is more or less the case with all trees; as it is well known that they serve the useful purpose of silently drawing down the electric fluid from the clouds, without any explosion. The beech may be endowed, in a superior degree, with this conducting quality, enabling it to receive a charge of almost any power, and allowing it to pass down without injury, as down a lightning rod.

OUR ORNAMENTAL TREES.

BY THE EDITOR.

6. The Striped-Barked Maple. (Acer striatum, *L.*)

All our native Maples, as well as the exotic species, are beautiful trees; indeed, it is doubtful if there is a more splendid street tree than the Rock Maple. They combine all the desirable qualities for street or shade trees, and it is to be regretted that the Elm has so long occupied the place which should, at least, have been shared with the Maples. When we consider the variety of their forms—the magnificence of their autumnal foliage—the ease with which they are transplanted—the rapidity with which some of them grow—and their general clean and neat habit,—it is surprising that they are so slightly appreciated, and so sparingly introduced into ornamental plantations; some of them are scarcely known out of their native woods.

Of the latter class are the Black Maple and Striped Maple, or Moose Wood, the last of which grows abundantly, according to Michaux, throughout New England. It fills the forests of Maine and Nova Scotia, and is scattered more or less throughout the whole mountain range of the Alleghanies, where it is found in cold and shaded exposures, to their termination in Georgia. It abounds in the woods in the western and middle part of Massachusetts, and in Essex County,

and is known under both names of Moose Wood and Striped Maple. The former appellation was given to it by the early settlers, who noticed that the moose, then abundant everywhere, fed upon the young branches during the latter part of winter and spring. It is rare to find this Maple under cultivation.

The Striped Maple (FIG. 21,) never attains to large dimensions, its average size, as seen by Michaux, being ten feet, though he states that he found individual trees twice that

21. THE STRIPED-BARKED MAPLE.

stature. Mr. Emerson says twelve feet, though he measured specimens among the Green Mountains east of Berkshire, twenty-four feet high; and there is a fine specimen in the Cambridge Botanic Garden upwards of thirty feet. As it usually constitutes the undergrowth of forests, it is rarely seen in its true dimensions.

It is one of the earliest trees in the country whose vegetation announces the approach of spring. The shoots are smooth and green; and the buds and leaves, as soon as they begin to open, are rose-colored, and have a pleasing effect,

contrasted with the more naked trees which surround it. On vigorous specimens the leaves are from four to five inches broad, rounded at the base, divided into three acute lobes, and finely serrated; the flowers are generally arranged and grouped in long pendulous peduncles, and are succeeded by large seed or keys, similar in shape to other maples, but which make a pretty appearance at that season.

The bark is smooth and green when young, but it soon begins to assume that peculiar character, by which it is at once detected among all other trees. As soon as the stems attain the age of two or three years the bark begins to yield and separate, longitudinally, leaving the inside cellular tissue to show itself, of a pure white, which gives it a singular striated appearance; in a short time the white changes to a darker color, and in deeply-shaded forests the stripes are black, by which it is distinguished at all seasons of the year.

The Striped Maple is readily raised from seeds, which are produced in abundance on the young trees, or it may be grafted on the common English Sycamore, (A. pseudo platanus) by which its growth is greatly increased, Michaux says, to four times its ordinary size. In this way it is propagated in France. The seeds should be planted in the autumn, in beds, as with the Sugar or Red Maple. The second year the young seedlings should be removed to the nursery, where they may remain till large enough to transplant where they are intended to grow.

We commend this species to the attention of all lovers of fine trees, particularly to those who are forming ornamental plantations, where a good undergrowth is desired, or where curious and beautiful specimens are an object. The attractive appearance of its rose-colored buds in April, the deep green of its thick and serrated leaves in summer, and the lively aspect of its striated bark in winter, give it a prominent claim upon the attention of all who appreciate variety in landscape scenery.

FLORICULTURAL AND BOTANICAL NOTICES.

NEW ACHIMENES.—Some of the new seedlings of these beautiful summer flowering greenhouse plants are very distinct from the imported species, and show the value of hybridization in raising new varieties. The following are some of these fine sorts, with a brief description of their flowers, now making a fine display:—

A. AMBROSE VERSCHAFFELT.—Flowers white, with a yellowish throat, delicately pencilled with violet, and a dark purplish blotch on the upper side.

A. DR. HOFT.—White, with a purplish throat.

A. HENDERSONI.—Bronzy purple, with yellow throat.

A. RECTICULATA ROSEA.—Pale lavender, with a yellowish throat, dotted and veined with crimson purple.

A. EDMUND BOSSIERE.—Similar to A. Verschaffelt, but not so deeply marked in the throat.

A. PULCHELLA.—In size of flower and general appearance it approaches the old coccinea, but the flowers are of the deepest and most intense crimson.

319. RHODODE'NDRON MOULMAIME'NSE *Hook.* MOULMAIN RHODODENDRON. (Ericaceæ.) Moulmain.

A greenhouse plant; growing six feet high; with yellowish white flowers; appearing in spring; increased by layers; grown in peaty soil. Bot. Mag. 1856, pl. 4904.

This is one of the many Eastern species of this splendid tribe, found by Mr. Lobb at Moulmain, on the Gerai mountains, at an elevation of 5000 feet above the sea. He sent seeds to Messrs. Veitch, who were successful in raising plants which flowered in January last. The R. moulmaiménse has reddish branches, and leaves four to five inches long, broadly lanceolate, acuminate, coriaceous, dark-green above, and paler beneath. The flowers are of medium size, pure white, tinged with yellow, and greatly resemble some of the finer varieties of the hardy azaleas, the heads of flowers being flat, and not much larger than some of the latter. Its neat foliage, compact habit, and early flowering will render it a fine greenhouse plant for winter decoration. (*Bot. Mag.*, March.)

320. NYCTA'NTHES ARBOR-TRISTIS *L.* ARBORTRISTIS OR NIGHT JASMINE. (Jasmineæ.) India.

A stove plant; growing three or four feet high; with white flowers; appearing in summer; increased by cuttings; grown in light rich soil. Bot. Mag., 1856, pl. 4900.

An interesting small shrub, requiring in England the temperature of the stove, where it blooms all summer, opening only at night. The flowers are similar in shape and size to the other Jasmines, but are pleasingly varied by an orange-colored tube and a deep orange eye. It is highly fragrant, and spreads its rich odor to a considerable distance every evening, but at sunrise it sheds most of its night flowers, which in the East are collected for the use of perfumes and dyes. In our climate it would grow freely in the open air in summer, treated like the Vinca and other tropical plants. (*Bot. Mag.*, Feb.)

321. CYPRIPEDIUM PURPURATUM *Lindl.* PURPLE-STAINED LADY'S SLIPPER. (Orchideæ.) Malayan Archipelago.

A stove plant; growing six inches high; with white and purple flowers; appearing in autumn; increased by offsets; grown in peat and leaf mould. Bot. Mag., 1856, pl. 4901.

All the Cypripediums, both hardy and tender, are beautiful plants, and well worthy a place in every choice collection. In Europe they are much prized by all amateur lovers of flowers; even our common species, so abundant in our woods, are considered an indispensable addition to their gardens.

The present species has very much the foliage of C. venustum, being elegantly mottled with dark green. The flowers also resemble it, being white, beautifully shaded and striped with purple. Dr. Hooker considers it "a lovely species." It requires the temperature and moisture of a damp stove to flower in perfection. (*Bot. Mag.*, Feb.)

322. PENTAPTERYGIUM FLA'VUM *Hook.* YELLOW PENTAPTERYGIUM. (Vacciniàceæ.) India.

A greenhouse shrub; growing two feet high; with yellow flowers; appearing in spring; increased by layers; grown in peaty soil. Bot. Mag. 1856, pl. 4910.

"Though not a showy, it is a remarkably elegant and ornamental plant, from the deep-green glossiness of the wrinkled leaves, and the nodding racemes of yellow flowers,

whose pedicels are red." It is a native of the Duphla hills in Eastern India, on trees, at an elevation of 4 to 5000 feet above the sea-level, growing along with Rhododendron Nuttallii, where it was found by Mr. Booth and sent to Mr. Nuttall at his fine place at Rainhill. It has an erica-like flower, bright yellow, in dense racemes at the ends of the shoots, and is a fine addition to hardy greenhouse plants. (*Bot. Mag.*, April.)

323. CORRE'A CARDINA'LIS *Muell.* SCARLET-FLOWERED CORRÆA. (Diosmeæ.) Australia.

A greenhouse shrub; growing two feet high; with scarlet flowers; appearing in March; increased by cuttings; grown in leaf mould, peat and sand. Bot. Mag., 1856, pl. 4912.

The Corræas are all pretty plants, but a brilliancy of coloring has been wanting to render them favorites. In the present species all this has been obtained. The flowers are of the deepest scarlet, the segments or lobes of the limb only yellow; very brilliant, and an entire new feature in this group. The foliage is small and narrow, but the slender branches bear drooping flowers one inch and a quarter long, with the filaments of the stamens extending nearly half an inch beyond the corolla. It is entirely distinct from any hitherto published species; and as beautiful as it is distinct. It was raised from seed by Messrs. Veitch, received from Australia, and has flowered finely in their extensive collection. It is a great accession to our greenhouse collections, and should find a place in all of them. (*Bot. Mag.*, April.)

324. SAXI'FRAGA CILIA'TA *Royle.* FRINGED SAXIFRAGE. (Saxifrageæ.) Northern India.

A half hardy perennial; growing one foot high; with white flowers; appearing in spring; increased by division of the roots; grown in any good soil. Bot. Mag. 1856, pl. 4915.

A very pretty species of Saxifrage, nearly allied to S. ugulàta, if anything more than a variety of it, inhabiting the same mountain range of the Himalaya. In England it is considered hardy, though its flowering season is so early that the protection of a cool frame is necessary for the full development of its blossoms. The leaves are elliptical, and beautifully ciliated on the edge. (*Bot. Mag.*, May.)

REVIEWS.

GARDENING FOR THE SOUTH; or the Kitchen and Fruit Garden, with the best methods for their cultivation, together with hints upon Landscape and Flower Gardening, containing Modes of Culture; descriptions of Fruits, Vegetables, and a Select List of Ornamental Trees and Plants, found by trial adapted to the States of the Union, South of Pennsylvania, with Gardening Calendar for the same. By WILLIAM N. WHITE, of Athens, Ga. 1 vol. 12mo. pp. 490. New York: Saxton & Co., 1856.

So full and explanatory a title would hardly require any further notice to convey the character of Mr. White's excellent volume. It is, as he states, a Book for the South, written to supply a want which has long been felt, but now happily filled. That Mr. White has well executed the work he has undertaken, a very hasty perusal of the volume shows, written, as he states it has been,

"In the intervals of trade, and subjected to its constant interruptions—now advancing but a line at once—again a page or an article—suspended totally for two years, then hastily finished, looked over, and printed under circumstances that rendered the author's revision of the proof impossible, many defects of style and errors of the press are manifest. Thus, if the work contain the information sought, practical men will readily excuse in a first edition."—*Preface.*

All who reflect for one moment will see that the great extent of our country, reaching through so many degrees of latitude, must necessarily embrace great varieties of climate, and that the mode of culture applicable to the north is quite unsuited to the south, especially Georgia, Alabama, Louisiana, &c., where there is in fact no winter, and where gardening operations are carried on throughout the year. To the southern region English horticultural works are better adapted than such as have previously appeared by our northern writers. But even the English books are at fault, for the cool and humid climate of Great Britain is so unlike the hot

and dry atmosphere of the south, that it requires a great deal of judgment on the part of the gardener to adapt their practice to his own. All this it has been the endeavor of Mr. White to remedy, and furnish a work specially adapted to the latitude and wants of the south.

Without occupying space to go into a detail of the volume we need only add that, after the general hints on gardening, soils, manures, propagation, rotation of crops, insects, &c., the arrangement is alphabetical, and aided by a complete index, reference to any particular plant or fruit may be had at once. We highly commend the volume to our southern readers.

THE FLOWER GARDEN, or Breck's Book of Flowers, in which are described all the various Hardy Herbaceous Perennials, Annuals, Shrubby Plants and Evergreen Trees, desirable for Ornamental Purposes, &c. By JOSEPH BRECK, Seedsman and Florist, &c. New Edition, revised and enlarged. 1 vol. 12mo. pp. 400. Boston: 1856.

WE have already, in our notice of the first edition of this volume, spoken of the value of Mr. Breck's book. Referring to that we have only to add now, that the present edition is greatly enlarged and improved, with upwards of fifty additional pages, including a chapter on the "Cultivation of Plants in the Parlor," which has been called for by the female amateurs from every part of the country.

"Many new and beautiful plants for the flower garden have been introduced since this work was written, and many old standard varieties have been so much improved, that those formerly highly prized are now thrown aside and rejected."—*Preface.*

The author feels under obligations to numerous individuals in every part of the country, who, in their private communications, have spoken of it in high terms, as being a work very much needed, and as meeting the wants of young gardeners.

We commend it to the attention of all cultivators and lovers of beautiful flowers.

General Notices.

BLIGHT CURED BY SULPHUR.—On Thursday, the 12th June, the vines in a vinery here appeared affected by a sudden blight (the leaves shrivelled and burnt as by a sirocco), so severely as to promise the eventual total failure in perfecting fruit. Sulphur was directly applied without, and after, a syringe washing. This appeared to do little good. Last year this process, although it seemed to check the blight, completely failed in saving any portion of the fruit. Sulphur was then placed on the floor and burnt, and this seemed to arrest partially the progress of the blight. Then the thought occurred of sprinkling water on the heated flue, and sulphur upon that. This caused a health-giving vapor to rise, but it was found that the water poured upon the hot flue dried up too rapidly. The thought then came into the mind of the experimenter to sprinkle the water, and next the sulphur upon the cold flue, and then gradually to warm the flue. This, along with keeping up sufficient temperature, has been found to answer (as far as yet appears) perfectly. Each night this method has been followed, and now new leaves are growing, and the whole crop looks beautifully healthy. From this may not the inference be drawn that the evil effects of blight, of all descriptions and in all places,—in trees, on walls, or standards, and in hop grounds,—may, by timely and proper employment of water, fire, and sulphur, be in a great part checked, mitigated, or altogether avoided; although, of course, their application *sub Dio* may be a matter of difficulty, and prove of less virtue? The virulence of that exceedingly curious, novel distemper, which so (almost) unaccountably last year affected the otherwise ordinarily little excitable minds of many worthy hop factors—sulphurophobia—would probably also yield to the gentle "alterative" thus humbly presented for exhibition; their main cause of dislike to the application of sulphur to the foliage of the hop being, in great part, obviated by its taking the form here mentioned. It is for you to say whether the individual who has apparently saved my vine crop deserves especial notice for his ingenuity. He is a laborer in my employment; his name Samuel James.—(*Gard. Chron.*, p. 422, 1856.)

GREAT EXHIBITION OF RHODODENDRONS IN REGENT'S PARK, LONDON. The exhibition of American plants held here under canvas is as fine, if not finer, this season, than ever we have seen it. Individually, the plants are literally masses of bloom, and the three collections (which are supplied by Messrs. John Waterer, Standish and Noble, and Baker), coming into flower as they have done all at one and the same time, have produced a display, the effect of which is grand in the extreme.

Decidedly the gem not only of Messrs. Waterer's contributions but of the whole exhibition is the rhododendron called Lady Eleanor Cathcart, a brilliant salmon pink with a dark spot in the upper petals. This noble specimen, which is at least 12 feet in height and as much through, has been and still is covered with flower, and looking over the whole show, from whatever point of view one will, this plant naturally attracts attention. Fifty guineas,

we were informed, were refused for this plant the other day, when it was in perfection. So much for its value. Next in point of merit, though much smaller in size, may be mentioned John Waterer, an intense deep crimson, with immense heads of bloom. Of the same class but different a little in shade is Mrs. John Waterer, also a first-rate variety. Of other deep crimsons worthy of special notice were atro-sanguineum, Vandyck, and Blandyanum. The latter was, however, nearly out of flower; Leopardi, a lilac, is beautifully spotted, and Sherwoodianum is also worth attention. Blatteum, a spotted deep lilac kind, shaded with violet, has great heads of flower which, from their diversity of color, make this variety one of the best of its class. Celebrandum, a singular looking kind, has blossoms of a deep port wine color. Lefevreanum is a striking and beautiful variety on account of its lively pink color and conspicuously spotted upper petals. Brayanum, as we have stated before, is one of the best of brilliant rosy pink sorts. Geranioides, a spotted pink kind, is small but neat; Cyaneum is one of the best of the bluish lilac varieties. Waterereanum, in the shape of a huge bush loaded with bloom, was at least 14 feet high, and as much through. Roseum elegans, a standard, was also conspicuous and fine. Of light colored kinds the best were perspicuum, gloriosum, and delatissimum; fastuosum, a well known showy double lilac, was not fully in flower; Luciferum, French white in color, was extremely delicate; Gretry is in the way of Blatteum, but paler; album elegans makes a pretty standard, as does also maculatum grandiflorum, a rosy pink kind spotted and pale in the centre. Of new sorts the best is Madame Van der Weyer a pink shaded with violet prettily spotted; and Sir Colin Campbell, an extremely handsome rosy pink kind with light centre.

In Mr. Baker's collection ponticum album was in excellent condition; Catawbiense bicolor is also a beautiful sort; and of crimsons, ignescens is one of the most striking; Mammoth, a profuse flowerer, is rose when it opens, but changes to a delicate pink; Altaclerense splendens, a crimson kind with black spots, is one of the handsomest of its class, as is also Towardianum, a rose colored sort with finely shaped flowers; album superbum is a good white, and the same may be said of nivaticum, though the latter is not a large kind; versicolor is distinct and pretty, as is also bicolor, a rose and white colored kind; Empress Eugenie, a white sort, is delicately spotted; and among dark varieties, atra-purpureum and erectum deserve notice. The semi-double Hyacinth florum we did not see in perfection, but we noticed a double lilac sort equally pretty called Vervaneanum. Kalmioides has peach-colored blossoms and foliage not unlike that of the broad-leaved Kalmia.

An as yet little known Belgian kind called concessum was by far the most striking of Messrs. Standish & Noble's group, and is a real acquisition. It has rosy pink flowers with pale centres, and is excellent both in shape and substance. Fleur de Marie, a rosy crimson kind with paler centre, is also transparent and beautiful; Maid of Saragossa is a good pink; Reedianum, an intense rosy crimson, is also late and good; Nobleanum bicolor makes a handsome standard; Ariel is a rosy salmon, and conchiflo-

rum, a charming little pink kind and a most profuse flowerer, although not remarkable for good shape, must prove a favorite. Duc du Brabant is a pretty variety in the way of pictum. Many other sorts deserve notice, but the above are a few of the more striking.—(*Gard. Chron.*, p. 423, 1856)

Monthly Gossip.

The Season in Ohio.—We are suffering from dry weather. Fruit of all kinds scarce and inferior. Peaches an entire failure; cherries, few and imperfect; apples much impaired by the curculio and codling moth; pears somewhat more promising, yet few in number. The wild pigeons have destroyed our strawberries, currants and raspberries.

The only thing which is flourishing with me is my Gloxinias. They are beautiful, and very fine.—*Very truly yours*, J. P. Kirtland, *Cleaveland, July* 22, 1856.

Culture of Oranges and Verbenas.—I have a fine old orange tree grafted by L. Menand of Albany, some years ago; it had small fruit on when I brought it home, when I removed it to a larger tub; the fruit dropped off, and it has never blossomed since; it appears to be healthy. Let your readers have something upon the culture of the orange, and also the verbena; my plants of the latter are destroyed by lice and mildew.—*Yours*—An Amateur.

A capital article on the culture of the orange will be found in a previous volume. We apprehend the trouble with our correspondent was the repotting into too large a tub, by which the plant was thrown into a very vigorous growth, which has retarded its bearing; as soon as the roots have filled the tub it will probably begin to bloom again.

Verbenas are of such easy culture it seems almost unnecessary to give detailed directions on the subject. In our earlier volumes will be found several articles on their cultivation, but as we presume our correspondent does not possess them they cannot be referred to. If set out in light rich soil they rarely are troubled with mildew in the open air. In the house in pots they are often affected with it; but it may be prevented by the free application of sulphur. The aphis or lice can be easily destroyed by fumigation with tobacco.—Ed.

Wintering the Roots of Gomphrena Hoveyii.—While securing the roots of Commelinas, and some other flowers, last fall, a thought occurred to me that the roots of Gomphrena Hoveyii appeared so much like them, they would winter as well as others; accordingly I took them carefully up, and stored them in dry garden soil in the cellar, and they came out sound this spring, and sprouted as well as a dahlia, and are full of buds.—An Amateur.

Societies.

CINCINNATI HORTICULTURAL.

The following Reports, made to the Cincinnati Horticultural Society, on the Strawberry, have been published in the papers of that city. As they are a sequel to what has already appeared in reference to the question of the best varieties of Strawberries, we give them entire, to the exclusion of other matter, as we believe they will be read with much interest. We trust it may be the finale upon a subject which has now been so fully discussed as to leave no room for further remark.

Mr. President, and Gentlemen of the Cincinnati Horticultural Society:—Your Committee, to whom was referred the duty of visiting the strawberry plantations in this neighborhood, beg leave to report that the first place, according to their arrangements, visited, was Mr. A. H. Ernst's, near Mill-creek. They found the soil a limestone clay, with a small portion of vegetable mould above and yellow clay beneath, not differing, however, from the most favorable Kentucky or river-hill soils, except in age, and not adapted generally, for this reason, to the successful or satisfactory cultivation of the different kinds of the strawberry. The Committee's attention was first directed to a Keen's seedling, from Indiana, a pistillate; fruit large, of a bright scarlet, uniform in size, plants vigorous and very productive; flavor good, but rather acid, trusses standing well up, and evidently quite suited for a good market fruit.

The next variety was Longworth's Prolific, which appeared better adapted to Mr. Ernst's grounds than most of the other varieties seen there. This fine kind being hermaphrodite, and vastly productive, nearly every bloom setting, and requiring, of course, no impregnation from others, is most admirably adapted for both market and amateur cultivation, and is probably equal to the Extra Red in productiveness. The Hudson appeared next, uncertain in its bearing on the grounds compared with newer soils, and more than usually acid, but, as usual, firm fleshed and of good flavor, and excellently well adapted for preserving. La Grange or Hautboy did not seem to impregnate well, being also late. McAvoy's Superior was found true, but, owing to staminals not being near as well as numerous, was very imperfectly impregnated. The Neck Pine was found, as usual, very prolific, but small, yet tender and of good flavor; also the Washington or Iowa Male, easily distinguished by its leaf. And Hovey's Seedling, very small, with the exception of a few berries, with Keen's Pistillate, distinct from the one named, a medium sized berry, but as there are so many larger and better, not considered by your Committee worthy of much attention. Jenny's Seedling, pistillate, blooming late, is much esteemed by Mr. Ernst, and is pronounced by him almost a never-failing.

The Extra Red, one of the greatest bearers, although very acid, is likely to be a very profitable market fruit. Taylor's Seedling was not regarded as worthy of cultivation here. The Willey, though small, being very hardy and a very great bearer, worthy of attention by cultivators.

Your Committee next proceeded to inspect the large field cultivators in Kentucky, in Campbell County, from five to eight miles out. Messrs. Wiley, Bates and John C. Youtcy cultivate, like most of the others, three kinds, the Washington or Iowa, Hovey's Seedling, and the Hudson. The number of acres planted varies from about five to twenty and even thirty acres. It is generally on the fresh, new soil, just cleared of the timber, and planted with a half crop of corn the first year, the corn being put four or five feet, and the strawberries two feet apart, in the rows. The Washington succeeds remarkably well on this new land; the berries are of good size; the vines immensely productive, and quite early, being the first in the market. At the time of the Committee's visit the fruit was nearly destroyed by the great drought of this season, but the ground was literally covered with the dried-up fruit. The Hovey was found most magnificently large, and very fairly productive on this new land. The plants, standing comparatively thin on the ground, were very large and vigorous, and resisting the great drought with wonderful power. There were observed among them a considerable quantity of both large and smaller plants, which bore no fruit. These, no doubt, according to the statement of Messrs. Youtcy and Bates, were the growth or runners of the last season. For the sterility of the smaller it would not be difficult to account, but for that of the large sized ones, it is not so easy. Messrs. Bates and Youtcy consider the cause to be in the Hovey being rather less inclined to come into speedy bearing than other kinds. The majority of those persons having the most experience in growing this berry for market agree in deciding it to be a more certain crop than the Hudson, which only in some seasons, and in new soils, is very successful. The Hovey is found to withstand cold well, and great heat admirably. It will succeed well on much older, but well-prepared, ground, than the Hudson. While the Hovey bears drought better than the Hudson, the Hudson is considered to bear frost a little *better* than the Hovey. The Hovey is found to succeed best on a south-eastern exposure, not doing so well on a northern aspect. From its large size and vigor, particularly of the roots, it requires especially a deep soil. The plants are put in the ground in the spring, generally from the first to the last of April. The impregnator most in use is what the cultivators term the Old Hudson Male, which is altogether a staminate, scarcely ever bearing fruit. The rows of plants are about four feet apart, and the plants are about one foot apart in the rows, when not planted with corn. A male is planted about every sixteen feet, and so on *diagonally* in the rows, being set after the others, or pistillates. In putting in the sets they are planted a moderate depth, (not over the crown,) and if the time of planting is dry, water is sometimes poured in the hole with each plant, and then covered on top with earth, to prevent the baking of the surface by the sun and winds. Fifty bushels to the acre is thought a good crop. On the farm of Mr. Pye, eight miles and a half back of Covington, in Kenton County, on the Licking river, with a great elevation, besides the Washington, Hovey and Hudson, in very extensive cultivation, your Committee met with McAvoy's Superior, on perfectly new land, on a northern exposure, the one deemed best for it by Mr. Pye. Here, as elsewhere, your Committee found the berries im-

perfectly impregnated, continually demonstrating the necessity in this particular kind (and according with all other evidence also) of a very close and numerous fertilization. There can be no doubt in the minds of your Committee that this variety is among the kinds of the very largest size at present known, is greatly productive, and the berries carrying out well their size from the first and largest berry on each truss—that the flavor is rich and most agreeable—that it can be carried with care ordinary distances—that it is very hardy and sufficiently vigorous in growth—that the color is rich, if it is not brilliant, and that, although its shape is irregular, its bulging and swelling form conveys the idea of luscious richness. Your Committee did not enjoy the opportunity of seeing Longworth's Prolific anywhere except on Mr. Ernst's grounds. Even there, generally unadapted as this gentleman's soil is for the strawberry, this grand hermaphrodite flourished in great luxuriance, prolificness, vigor and beauty—in the words of Mr. Longworth, "bearing a full crop of good fruit standing alone." This attractive berry is constantly rising higher and higher in the opinion of the most competent judges, and your Committee cannot fail to observe its many valuable qualities, the chief of which are its uniting the great characteristics of an impregnator with good flavor, great size, productiveness, vigor and hardiness.

With regard to Hovey's Seedling, your Committee—until other berries have been properly and completely tested in the same soils and under the same favorable circumstances, or under those circumstances, at least, best suited to their particular requirements—cannot but arrive at the conclusion that, under all the respects in which they have been able to examine it, it is at this time one of the very best fruits of the kind for general, or, at any rate, market cultivation; for, its large size and uniform shape, its very good and sweet flavor when fully matured, its fair yield of large berries, even after the largest one of the bunch, its brilliant color when nearly ripe and its rich deeper shade when fully ripe, its firmness for carriage and maintainment of firm texture and fine appearance for many hours after being gathered, its hardiness and vigor, its general adaptation to nearly all soils, and its easy impregnation, combine to render it, in your Committee's estimation, one of the most prominent, valuable and reliable berries in the country, in general cultivation, with which we are acquainted.

S. S. Jackson,
E. J. Hooper,
Robt. Reilly,
M. M'Williams.

To the President and Members of the Cincinnati Horticultural Society:—

Gentlemen,—It is indeed a matter of surprise that the great "strawberry question" cannot be settled. But surprising as it may seem, it is still more surprising that gentlemen engaged in collecting and disseminating information upon this much-vexed and agitating question do not confine themselves strictly to the facts as they present themselves for investigation.

When this Society, at its meeting on the —th of June, appointed the

Fruit Committee a Special Committee to visit the several strawberry plantations in the vicinity, and report upon their relative merits for general cultivation, &c., I really hoped that the question would receive that candid investigation which the intelligence and acknowledged ability of the "majority" of that Committee would seem to warrant. Whether our own expectations have been realized will be shown in this article.

The public have forgotten (if members of this Society would willingly blind themselves to the fact) the origin of the present strawberry controversy. Mr. Longworth stated in a communication in the *Cincinnati Times*, that "*many years have passed since we threw aside Hovey's Seedling, because nine-tenths of the berries were of small size, and the fruit not of superior quality.*"

To this sentiment exceptions were taken, which resulted in a majority and also a minority Report; the former signed by Messrs. S. S. Jackson, E. J. Hooper, M. McWilliams, and Robert Riley, four members; the latter by myself.

The majority Report was quite brief, and you, Mr. President, considered it "to the point"—the whole thing contained in a "nut-shell." Now, sir, I propose quoting from that brief document. It says: "For size of berries and hardihood of plants, they (the Committee) know of no strawberry better than McAvoy's Superior. In prolific qualities it is surpassed by few worthy of cultivation, but their experience, so far as the good market qualities of strawberries are concerned, at the present time, is, that there is no rival to Hovey's Seedling, it being, in their opinion, more popular with our market gardeners who supply Cincinnati than any other kind; at the same time they hesitate not to say that Hovey's Seedling is not equal to McAvoy's Superior in flavor."

This language, it will be recollected, was used by the "majority," before the majority of the strawberry crop of the present summer. In their subsequent Report the same gentlemen use the following language:

"With regard to Hovey's Seedling your Committee, *until other berries have been properly and completely tested*, in the same soils, and under the same circumstances, or under those circumstances at least best suited to their particular requirements, cannot but arrive at the conclusion that, under all the respects in which they have been able to examine it, it is at this time one of the very best fruit of the kind for general, or at any rate, market cultivation; *for its large size and uniform shape*, its very good and sweet flavor when fully matured, its fair yield of large berries even after the largest one of the bunch, its brilliant color when nearly ripe, and its rich deeper shade when fully ripe; its firmness for carriage and maintainment of firm texture, and fine appearance for many hours after being gathered; its hardiness and vigor, its general adaptation to nearly all soils, and its easy impregnation, combine to render it, in your Committee's estimation, one of the most prominent, valuable and reliable berries in the country, in general cultivation, with which we are acquainted."

Now, sir, I claim this sentiment is a great leap from the "tame" expression of the majority in their first Report, and would have received my un-

qualified assent if it was not smothered with a manifest determination upon the part of the majority to impress the public mind with the idea that the circumstances surrounding the cultivation of Hovey's Seedling were in an extraordinary degree favorable, and the meed of praise was only awarded until *other varieties* could be "properly tested," at least *under those circumstances best suited to their particular requirements.*"

Astonishing! Our eyes were almost picked out for intimating in the minority Report thus: "If our subsequent experience and more familiar acquaintance with McAvoy's Superior, under a variety of circumstances and in different localities, have convinced us that the Committee was premature in making the award (of $100) to it as a berry superior in all respects to Hovey's Seedling, we can be under no obligations to sustain that decision," &c. And now, after another year's experience with the great "Superior," the majority (one half of whom are known to be uncompromisingly in favor of the Superior,) are constrained to place Hovey's Seedling at the head of the list of strawberries for universal cultivation. It is true they intermingle a few "ifs" and "ands," as they pass along, I presume, for the same reason that a sailor in a severe storm at sea prayed first "good Lord," and then "good Devil," as he did not know whose hands he would fall into.

I can, with great confidence in the truth of my testimony, bear witness that the evidences presented to the Committee in their visits, justify this eulogy of Hovey's Seedling. The fruit at Messrs. Bates and Youtcy's was truly gigantic, and I confess I was rejoiced to see our old friend A. H. Ernst, Esq., collecting mammoth specimens as we passed over the grounds of these gentlemen, and calling the attention of the members of the Fruit Committee in ejaculations of wonder, admiration and praise, and I thought the old gentleman stood at least six feet six as the darkness of past years rolled from a mind now open to the convictions of truth, as the light shining with such intense brilliancy poured into his soul, making the very "stumps" and "grubs" which so thickly studded the fields shout aloud for joy, until the surrounding hills echoed and reëchoed the sound; and our friend Riley himself faintly uttered "Astonishing! the very finest kind of strawberries produced with less labor than we bestow upon an ordinary crop of potatoes."

But, Mr. President, as the Fruit Committee were to report upon what they saw with their "eyes," and not their imaginations, I am utterly at a loss to know where they found the original from which to draw the picture they have given us of the "Superior." It is true, sir, that we found the berries imperfectly impregnated, not, I think, from the absence of the pregnators, for other varieties, both in the grounds of A. H. Ernst and Mr. Pye, presented *perfect berries* with equal impregnation. This is a characteristic defect of this variety, and can only be remedied by excessive fertilization under other favorable circumstances, hence unworthy general cultivation. I say, sir, when the Committee found the fruit in the two days we were visiting, which justified their saying, "There can be no doubt in the mind of your Committee that this variety (McAvoy's Superior) is among the

kinds of the very largest size at present known, is greatly productive, and the berries carrying out well their size from the finest and largest berry on each truss; that the flavor is rich and most agreeable; that it can be carried with care ordinary distances; that it is very hardy and sufficiently vigorous in growth; that the color is rich if not brilliant; and that, although its shape is irregular, its bulging and swelling form conveys the idea of luscious richness."

This quotation of the majority is a picture drawn from the vivid imaginations of these gentlemen, or else describes the berry in question as witnessed by them on some other occasion than the one from which they were expected to make their Report. And I will here take occasion to inquire of these gentlemen that, if it were possible to reverse the evidence presented to their consideration, and Hovey's Seedling, instead of the immense crop of mammoth and well-developed fruit which greeted their eyes in the broad fields of our Kentucky friends, and the enormous dishes of the luscious berries which were found upon the tables of their hospitable ladies, and with such delight and apparent gratification transferred to the stomachs of the "Investigating Committee," had been such ill-formed, imperfectly-developed, half-grown and miserable looking creatures that the Superieur presented to our eyes at every place seen, without one single exception, and the Superieur had been all that we found the Hovey to be, what would have been the character of the report? I leave, sir, the answer for such as choose to make it.

Finally, when we recollect that Hovey's Seedling secured the first premiums at the two spring exhibitions of 1855, and at the spring exhibition of 1856 carried off the grand sweepstake of $10 offered by the Society for the best four quarts of any variety, and decided, too, by this same Committee, to be of *larger average size, more handsome, uniform berry*, and of BETTER FLAVOR, than the Superior placed in competition with it, we cannot but congratulate the Society upon the advanced ground they have taken, and flatter ourself that the experience of one or two more years in Strawberry cultivation will bring the Society, and especially the "majority," up to the opinions entertained and fully expressed in the "minority" Report of the Fruit Committee presented to this Society on the 22d March last. I would commend to your careful reading once a quarter at least of that Minority Report. Lest I become tedious, I will pass over other items in the Report of the majority that I designed to notice.

Very respectfully, W. E. MEARS.

Massachusetts Horticultural Society.

Saturday, June 21.—*Exhibited.* FRUITS: From Geo. Leland, Jenny Lind strawberries. From J. R. Simonds, Hovey's Seedling. From Jos. Breck

& Son, Jenny Lind strawberry and Cannon Hall grapes, fine. From W. C. Strong, Black Hamburgh and Muscat of Alexandria grapes. From J. F. Allen, Grosse Mignonne and Late Crawford peaches. Early Virginia strawberries, from A. J. Hilton, J. W. Foster, and H. Bradlee. From C. S. Holbrook, an extra fine display of peaches. Jenny Lind strawberries, from B. Harrington and Jos. Richardson.

June 28.—Exhibited. FLOWERS: A splendid exhibition of roses and other flowers was made to-day from upwards of *thirty* contributors. Mr. E. S. Rand, in addition to other flowers, sent Pyrèthrum aureum, Achillea rosea, and beautiful Oleanders. J. Breck & Son, a fine display of Moss roses, and Campanulas. B. Dennis, 2 pots of Briza maxima and Agrostis pulchella, very pretty. W. C. Strong, 14 fuchsias in pots, including some new sorts. John A. Kenrick, flowers of Magnolia longiflora and macrophylla. J. F. Allen, Salem, Stanhòpea occulàta, superb. M. P. Wilder, fine roses.

From Hovey & Co, a magnificent display of roses, including, among others, Shakspeare, Madame Le Gras St. Germain, Adele Becar, Marquis of Lothian, Margaret Mary, Sophia Cottin, Vandael, Chenedolé, Countesse de Murinais (Moss), Walter Scott, Kean, Paul Perras, Le Meteor, &c. &c.

PREMIUMS AND GRATUITIES AWARDED.

PRAIRIE ROSES.—For the best 6 kinds, to J. Nugent, $5.

For the best four kinds, to E. S. Rand, $4.

GRATUITIES.—To Galvin & Hogan, J. Breck & Son, W. J. Underwood, E. A. Story, E. S. Rand, Jr., E. Stone, Evers & Bock, and M. P. Wilder, for cut flowers, &c., $2 each.

To Hovey & Co., for extra fine roses, $5.

To P. Barnes, for flowers, $3.

To Dr. E. G. Kelley, J. Nugent, J. Hyde & Son, W. E. Carter, T. Smallwood, H. Vandine, W. C. Strong, Mrs. Ashby, J. A. Kenrick, E. B. Grant, Miss Kenrick, Miss Russell, Mrs. W. J. Underwood, Mrs. E. B. Grant, R. W. Holman, A. Bowditch & Son, Sarah Fisk, Mary R. Richards, J. F. Allen, and W. C. Strong, for flowers, plants and bouquets, $1 each.

FRUIT: From Ignatius Sargent, Black Hamburgh grapes, very large clusters, weighing 2 to 4 pounds each; berries very large, but not highly colored. From J. C. Blaisdell, Geo. Leland, and T. Rice, Jr., Hovey's Seedling strawberries. From J. Breck & Son, Muscat of Alexandria, and Cannon Hall Muscat grapes, the latter extra; also, Hovey's Seedling, McAvoy, and Walker Seedling strawberries. From Hovey & Co., Ajax, Durfee, Scott's seedling, and Fillbasket strawberries. From J. G. Blaisdell, fine Black Hamburgh grapes. From W. C. Strong, Black Hamburgh and Muscat of Alexandria grapes. From J. F. Allen, grapes in variety, and nectarines and peaches. From J. C. Scott, Brighton Pine strawberries.

Fruits tested: Brighton Pine, Jenny Lind, Walker's seedling, Ajax, McAvoy's superior, and Burgess seedling. Using Hovey's Seedling as the standard, the Brighton Pine was unanimously pronounced superior of the

whole number, and the Committee feel no hesitancy in pronouncing most favorably of this variety, both in flavor and prolificness.

July 5.—Exhibited. FLOWERS: The display was liberal for the season. Among the contributors were Messrs. Breck & Son, A. Bowditch & Son, E. S. Rand, Jr., W. C. Strong, J. Hyde & Son, P. Barnes, T. Page, J. Nugent, Jas. McTear, B. Dennis, Galvin & Hogan, E. A. Story, and D. Murray.

E. S. Rand sent fine cut specimens of Silene d'Orient, a new French variety, with very large, compact, deep rose-colored heads, and a great improvement on S. compácta. J. Breck & Son sent 10 kinds of Clematis, all hardy and fine.

GRATUITIES AWARDED.

To Parker Barnes and E. S. Rand, for cut flowers, $2 each.

To Mrs. E. B. Grant, Mrs. W. J. Underwood, J. Breck & Son, E. A. Story, A. Bowditch & Son, Mrs. R. M. Holman, J. Hyde & Son, H. Vandine, T. Page, and Galvin & Hogan, $1 each.

FRUIT: From B. Harrington, a large basket of strawberries, containing 6 or 8 kinds, picked on the stems; also, Elton, Black Tartarian, and Black Heart cherries. From J. W. Foster, Black Tartarian, Black Eagle, and four other varieties cherries. From J. C. Blaisdell, Black Hamburgh grapes, finely colored. From J. Breck & Son, Cannon Hall and Muscat of Alexandria grapes. From Geo. B. Cordwell, extra fine Black Tartarian cherries. From W. Bacon, extra superior Black Tartarian cherries. From Mrs. F. B. Durfee, Black Hamburgh, Black St. Peter, and White Chasselas grapes, fine. From J. F. Allen, grapes, nectarines and peaches.

From H. H. Hunnewell, Stanwick nectarine, a dozen beautiful specimens, which proved of delicious flavor, and superior to any other variety the Committee have ever tasted.

From Hovey & Co., 11 varieties of strawberries, in baskets, viz.: Sir Harry, Admiral Dundas, Sir C. Napier, Omer Pacha, Bicton White, Hovey's Seedling, Ajax, Victoria, Myatt's Eliza, Durfee's Seedling, and Scott's Seedling. The Admiral Dundas were splendid specimens, EIGHTEEN of the largest weighing ONE POUND.

The Chairman of the Committee, Dr. Wight, made the following Report upon strawberries:—

The Committee are enabled to speak more fully of the strawberries exhibited by Messrs. Hovey, (for information of amateurs and others who have not seen them), from having availed themselves of an invitation to attend a strawberry festival at the residence of Mr. C. M. Hovey. The ground devoted to the cultivation of the plants is a very stiff loam, not trenched, and only manured with a light application of guano. Yet the plants were vigorous and strong. The beds are kept with neatness, and well arranged on either side of the walks, the English varieties side by side with the most noted of the American varieties. After satisfying ourselves as to the productiveness of each variety, we adjourned to a well-spread table, where about thirty baskets, with as many varieties, were placed for testing and comparison. And we cannot here omit to mention the good taste of Mr.

Hovey in serving his guests with *unhulled* strawberries—a neatness which we wish was more general, believing it would prove more acceptable than to receive them hulled by hands of the cleanliness of which we are happily ignorant. [Those marked with an asterisk * are English.]

*Fillbasket (Nicholson's.) Excellent for general cultivation—large and good.

*Victoria—Good for an amateur.

*Ajax—Large, very dark, desirable.

*Goliah—Large.

*Sir Harry—Large, well-flavored, good bearer, and desirable for an amateur.

*Admiral Dundas—Coxcomb shape, berries extra size, and of good flavor, eighteen to the pound, desirable for an amateur.

*Crystal Palace—Vigorous grower, prolific in runners, berries showy.

*Prince of Wales—(Ingram's)—Large and fine for forcing.

*Myatt's Surprize—Large.

*Omer Pacha—Extra fine flavor, desirable for general cultivation.

*Capt. Cook—(Nicholson's)—Large, flavor good, bears well.

*Ruby—Not over desirable.

*Scarlet Nonpareil—Promises well.

*Sir Charles Napier—Large and excellent.

*Two Hundred Fold—Not well tried.

*Bicton Pine—Desirable for a white variety.

*Rivers' Eliza—High flavored, but too pale to warrant a general cultivation.

Monroe's Scarlet—A good bearer.

Jenny Lind—Handsome, last gatherings always good; this season about as early as Virginia and Boston Pine.

Scott's Seedling—This, as well as the preceding, will always prove attractive and well-flavored.

Durfee's Seedling—Quite large, a dark variety.

Hooper's Seedling—Worthless.

Hovey's Seedling—After 22 years' trial, *the* most desirable for general cultivation.

McAvoy's Superior—Others much more acceptable.

Boston Pine—Early, of good flavor, and when not closely grown, proves prolific.

Black Prince—(Cuthill's)—Not worthy cultivation.

Other varieties in process of cultivation, but not fully enough developed to speak of this season.

Saturday, June 28.—VEGETABLES: The exhibition of Vegetables had but a small proportion of the interest that this department should have had with our present facilities. New varieties of early vegetable seed are offered to test the skill of the practical and scientific gardener, adapting them to our climate and soils, by naturalization or artificial means, while it is true that fruits offer to the dessert a rich addition; while extensive orchards and large graperies cover our grounds, and flowers of every hue

embellish our gardens, still we are not satisfied without an extensive and economically managed kitchen garden, well supplied with early and late vegetables.

We were in hopes to have seen a full share of room claimed on the tables by exhibitors in this department the present season, and an earnest and fair competition for premiums offered by the society at the weekly exhibitions.

As the season advances, the Committee would be glad to see renewed energy, and to offer to the public such productions as may well vie with the other departments.

From Galen Merriam, rhubarb, Victoria—second cutting of twelve stalks, weighing 20½ pounds, fine. From Bowen Harrington, rhubarb—Victoria; onions; peas—Hill's, and Hovey's Early, fine. From Dr. E. G. Kelley, peas—Early Kent, finely grown. From C. F. Jones, Early potatoes, small; tomatoes, fine.

July 5th.—From Bowen Harrington, peas—Marrowfat; cucumbers and onions, fine. From James Nugent, beans—string, China Dwarf, fine. From C. F. Jones, early potatoes, (variety not given.) From T. Smallwood, potatoes, fine, variety not given; beets—Early Bassano, fine; beans—String, from Patent Office seed.

July 12.—Exhibited. FLOWERS: From J. Winship, J. Nugent, E. S. Rand and others. W. E. Carter sent the Double White Lychnis (L. flos-cuculi alba), Lilium excelsum, and several new and rare herbaceous plants. Messrs. Breck & Son, a variety of Clematises, and ten phloxes, among which a fine specimen of Countess of Home, white, with a fine crimson eye, large flower, and beautifully formed panicle.

From Messrs. Hovey & Co., 10 varieties phloxes, viz.: Roi Leopold, Snowflake, M. Rical, Agathocles, Camille, Alba Kermesina, Triumphator, and three others.

AWARD OF PREMIUMS AND GRATUITIES.

PHLOXES.—For the best 10 varieties, to Hovey & Co., $5.

For the second best, to J. Breck & Son, $4.

GRATUITIES.—To A. Bowditch & Son, Galvin & Hogan, and E. S. Rand, $2 each.

To J. Nugent, W. E. Carter, and F. Winship, $1 each.

FRUIT: From W. R. Austin, Downer and Black Tartarian cherries, extra fine; also Knevett's Giant raspberries. From C. E. Grant, Napoleon Bigarreau cherries. From A. D. Weld, 4 var. of cherries. From Dr. G. B. Cordwell, extra Black Tartarian cherries. From J. F. Allen, nectarines and grapes. From J. W. Foster, cherries and Knevett's Giant raspberries.

From Hovey & Co., several baskets of Admiral Dundas, Sir Harry, Sir Charles Napier, and Bicton Pine strawberries.

July 19.—Exhibited. FLOWERS: The exhibition was exceedingly fine for the season. The display of hollyhocks and pinks was large, and the former a great improvement upon previous years. But few carnations and

picotees of merit were shown; the German pinks were large and fine. The principal contributors were P. Barnes, T. Page, Miss Fanny Gray, Cambridge, Mrs. Holman, E. S. Brigham, Galvin & Hogan. Mrs. W. J. Underwood, J. Nugent, Dr. C. F. Chaplin, Miss A. C. Kenrick, Miss H. C. Kenrick, J. Hyde & Son, W. C. Strong, A. Bowditch & Son, W. E. Carter, F. Winship, and others.

E. S. Rand, Jr., had fine cut specimens of the pretty Abronia umbellàta, figured and described in our volume for 1853, also fine seedling Antirrhinums and other flowers. J. McTear, Roxbury, sent a well grown specimen of Erica Turnbullii, white. Messrs. Breck & Son, a fine show of Clematises, fine Salpiglossis, and other flowers; also the beautiful but rare Spiræa Lindleyàna, shown for the first time here. Messrs. Hovey & Co. sent a dozen varieties of hollyhocks, eight of them English prize sorts, and the others seedlings of great beauty; also carnations and picotees.

AWARD OF PREMIUMS AND GRATUITIES.

HOLLYHOCKS.—For the best 12 varieties, in spikes, to Hovey & Co., $5.
For the second best, to P. Barnes, $4.
For the third best, to J. Breck & Son, $3.

GERMAN PINKS AND PICOTEES.—For the best 10 varieties, to A. Bowditch & Son, $5.
For the second best, to Dr. C. F. Chaplin, $4.
For the third best, to J. Nugent, $3.

GRATUITIES.—To F. Winship, P. Barnes, J. Breck & Son, Dr. C. F. Chaplin, E. S. Rand, Jr., and A. Bowditch & Son, $2 each.
To W. J. Underwood, E. A. Story, J. Nugent, J. Hyde & Son, W. E. Carter, J. McTear, Galvin & Hogan, and W. C. Strong, $1 each.

FRUIT: From Hovey & Co., Fillbasket raspberries, (new.) From T. Page, Franconia raspberries. From J. W. Foster, Knevett's Giant, extra fine. From J. F. Allen, Flame Colored Tokay, Bowker, and other grapes; peaches, nectarines and figs. From G. Davenport and W. C. Strong, Brinckle's Orange raspberries, very handsome and fine. It proves to be a very prolific and excellent raspberry.

July 26.—Exhibited. FLOWERS: From J. F. Allen, P. Barnes, J. Breck & Son, E. S. Rand, Jr., F. Winship and others. Messrs. Hovey & Co. sent Spiræa Douglásii, Billárdii, callòsa, rosea élegans, salicifolia minor, &c.

AWARD OF GRATUITIES.

To J. Breck & Son, Jas. Nugent, E. S. Rand, Jr., and F. Winship, for cut flowers, $2 each.

To J. F. Allen, for Nymphæas; Hovey & Co., for new Spiræas; P. Barnes, A. Bowditch, Galvin & Hogan, Public Garden, Miss Russell, Miss N. A. Bird, Miss A. C. Kenrick, Mrs. W. J. Underwood, Galvin & Hogan, and Jas. Nugent, for flowers and bouquets, $1 each.

FRUIT: Fine Che[redacted]ite Dutch currants, from Capt. Wilson, J. W. Foster, Mess[redacted] Dana and others. Seedling gooseberries, from J. W. Foster. English gooseberries, from A. D. Webber. Grapes and peaches, from J. F. Allen.

AWARD OF PREMIUMS FOR FRUITS.

GRAPES.—For the best forced, to Jos. Breck & Son, for Cannon Hall Muscat, $8.

For the second best, to J. C. Blaisdell, for Black Hamburgh, $6.

For the third best, to Mrs. B. F. Durfee, $4.

PEACHES.—For the best forced, to C. S. Holbrook, for Coolidge's Favorite, $5.

For the second best, to J. F. Allen, for Grosse Mignonne, $3.

CHERRIES.—For the best, to W. Bacon, for Black Tartarian, $4.

For the second best, to Dr. G. B. Cordwell, for Black Tartarian, $3.

For the third best, to J. W. Foster, $2.

STRAWBERRIES.—For the best, to Hovey & Co., for Sir Harry, $5.

For the second best, to I. Fay, for Jenny Lind, $4.

For the third best, to Geo. Leland, for Hovey's Seedling, $3.

Horticultural Operations

FOR AUGUST.

FRUIT DEPARTMENT.

The month of July has been exceedingly hot and rather dry; but, fortunately, owing to the showery and cooler weather of June, vegetation did not suffer. Fruits of all kinds are swelling up finely, and if August does not continue dry, the crop, though not large, will be excellent.

GRAPES in cold houses will soon begin to color, and should be well aired in all good weather, leaving the sashes open at night, when warm; continue to cut away all laterals where too much crowded, and keep the walks well damped at all times. If very dry weather, give the border a good watering.

PEAR TREES should now be summer pruned by nipping off the tips of the leading shoots, and heading in the side ones to two eyes.

PEACH TREES in pots, from which the fruit has been gathered, should be more sparingly watered to ripen the wood; pinch off the tops of strong growing shoots.

BEDDING should be all done this month.

STRAWBERRY beds may be set out the last of this month. Prepare the ground in readiness for the plants. Old beds should be cleared of superfluous runners, and if too thick, part of the plants should be spaded under to give room for the remainder.

Insects should be attended to. The red spider is more abundant than usual in consequence of the hot weather. Plants infested should be syringed with whale oil soap. The autumn caterpillars have commenced their ravages, and the only way to destroy them is to look over the trees and gather them by hand.

FLOWER DEPARTMENT.

Continue to look after next winter's stock of plants; repot and top dress all such plants as need it, and sow seeds of the various kinds of which a stock is wanted. Prepare soils now for fall potting.

Camellias should be looked over if not already done, and such plants as require it repotted. Grafting and inarching may be done now.

Azaleas may have the same treatment as the Camellia. Young plants may be repotted and placed in a frame with a slight bottom heat, where they will make large plants for next season's stock.

Chrysanthemums should be repotted, and the shoots stopped for the last time.

Oxalis hirta and Bowiei should be repotted.

Achimenes started late, should now be shifted into larger pots.

Monthly Carnations layered last month, should now be removed to a well prepared bed.

Mignonette, Sweet Alyssum, Nemophilas, &c., should be sown now for winter blooming.

Pelargoniums, headed in last month, should be repotted now.

Fuchsias may be repotted.

Oleanders may be repotted now.

Cactuses should be repotted, and more liberally supplied with water.

Chinese Primroses, growing vigorously, may be repotted.

Verbenas, Petunias, &c., may be propagated now for next winter's stock.

Stevias, Eupatoriums and similar strong growing plants should have a shift into larger pots.

Japan Lilies, done blooming, should be sparingly watered.

FLOWER GARDEN AND SHRUBBERY.

The garden should now have every attention; if dry weather, its beauty can only be kept up by a liberal supply of water. Mow the lawn, and roll and rake the walks. Cut away all plants, whether annuals or perennials, whose blooming season is over and whose foliage has begun to fade.

Hollyhocks raised from seed should now be transplanted into beds.

Carnations and Picotees should be layered immediately.

Roses should be layered now.

White Lilies should be taken up and reset this month.

Dahlias should be regularly tied up to stakes, and pruned of the lower lateral shoots. Water liberally if fine large flowers are wanted.

Japan Lilies in beds, now coming into bloom, should be shaded from the hot sun.

THE FALL EXHIBITIONS.

SEPTEMBER is the holiday season of the horticulturist. It is the month of exhibitions, when the enthusiastic cultivators of the country meet together to exchange opinions, compare superior specimens of their skill, and discuss the progress of horticultural science and rural art. It is a season whose coming is anxiously awaited, and whose approach is greeted with the liveliest emotions of pleasure. For, unlike the usual holidays which we keep nationally, or by virtue of our state laws, when there is simply a relaxation from labor, the September holidays of the cultivator are periods for acquiring knowledge, for delighting the eye, and advancing the social character of our people. While the relaxation from labor invigorates the health, the exchange of ideas improves the intellect, and the inspection of the products of others lessens our own conceit, and enlarges our sphere of action. Winter, spring and summer have come and gone, the active labors of the season have been performed, the crops have been mostly gathered, and the intelligent cultivator, cheered by a bountiful harvest, can now exchange congratulations with his friends, renew their social intercourse, compare the products of his skill, discuss improved systems of cultivation, and then return to his labors refreshed by the period of recreation, his mind stored with that knowledge, which is the sure result of his participation in these annual gatherings of the horticulturist.

With the establishment of horticultural associations we may date the rapid increase of horticultural art in the present century. In 1804, Sir Joseph Banks and other gentlemen founded the London Horticultural Society, for the purpose of "collecting every information respecting the culture and treatment of all plants and trees, as well culinary as ornamental, and for giving premiums in horticulture, whenever it should be judged expedient to do so." The history of this society is

familiar to most of our readers. The good it has accomplished cannot be well estimated in words. For more than half a century it has been foremost in the great work of progress. "It has minutely examined the qualities and reduced to order the names of fruit trees and esculent plants; it has directed the attention of scientific as well as practical men to the improvement of the arts of cultivation; it has introduced at much cost, great numbers of exotic plants to decorate our gardens; it has published many volumes filled with important treatises upon almost every subject in which the gardener is interested; it has formed a very extensive garden and orchard, in which have been collected, from time to time, numerous plants, valuable for their utility and beauty; it has given an impetus to cultivators by its public exhibitions of garden produce; it has been a school from which have sprung some of the most distinguished gardeners of the present century; and it has given away to its fellows and to public establishments above a million and a half of plants, packets of seeds and cuttings. In effecting all this, $1,250,000 have been expended, of which $200,000 have been consumed in the creation of the garden, more than $10,000 in forming collections of drawings, models of fruit, &c.; $65,000 in the mere cost of procuring new plants and seeds, while above $100,000 have been directly applied in the form of medals and money prizes for the encouragement of horticulture."

Such is a brief account of what has been accomplished by the oldest association in Great Britain, an association which now appeals to the public for assistance. Burdened with liabilities to the amount of $50,000, it is now compelled to dispose of the garden unless a sufficient sum can be raised to cancel the debt. It is greatly to be regretted that it should have been brought to this condition; nothing, we think, but injudicious management has been the cause. Had its Vice-Secretary, Dr. Lindley, to whom its management is mostly entrusted, pursued a liberal policy, conciliating the numerous cultivators around London, on whom alone the success of its exhibitions, which were the source of its income, depended, it might now be in as flourishing a state as ever. But its

best exhibitors were driven away by a narrow policy, its shows lost their attractions, and the Royal Botanic Society of Regent's Park, to which they became supporters, still holds its exhibitions in all the success of former years. Though reform has come late, we hope the efforts now making will reëstablish the society on a sure foundation; the good it has done alone deserves that it should have the support of every friend of horticultural progress in Great Britain. That it may succeed, is, we doubt not, the sincere wish of every lover of gardening in this country.

It was nearly a quarter of a century after the establishment of the London Horticultural Society before our own countrymen followed the example of their transatlantic friends. During this period very little was accomplished in horticultural progress. Our fruits, our flowers, our trees, and even our vegetables, were of the oldest kinds, and but little effort was made to procure others in their place. It was not till Mr. Knight, then President of the London Society, opened a correspondence with John Lowell, and sent him many new fruits, that fresh interest was awakened among our amateur cultivators. His liberal donations of scions, and the republication of his valuable horticultural papers at once gave renewed action to all who felt the least interest in superior fruits; and to the London Horticultural Society, through Mr. Knight, are we indebted for that new impulse, which has ripened into such splendid results.

New York was the first to organize a society, with the same objects in view as that of London; but after a feeble effort to awaken an interest in horticultural progress, it gradually died away, until it ceased to exist. Pennsylvania and Massachusetts followed the example of New York, but with better success, as all our readers are aware. Other States became interested in the subject, and societies were not only organized in some of the principal cities of the Union, but in many counties, and several towns, in the Middle, Western, and Eastern States. To the influence which they have wielded are we in a great degree now indebted for the high position our country has attained in horticultural science.

Such being the tendency of these associations to awaken an interest in the art of cultivation, and improve the products of the gardener's care, it should be the first endeavor of all who duly appreciate their importance, not only to organize them wherever individuals enough can be found to render them permanent and effective, but to use their influence to make them attractive and popular, by means of exhibitions, and the distribution of premiums, for the best examples of superior cultivation. It is in this way that so much has been accomplished by the London Horticultural Society. The magnificent specimens of the gardener's art which have delighted thousands of visitors at Chiswick Gardens, and still attract and delight them at the Regent's Park and Suydenham Palace, may date their origin to the liberal prizes and good judgment of that Society. The generous emulation which they have excited brought out the cultivator's skill; and from the almost insignificant looking plants have been produced specimens which it would seem impossible to excel. The same results we hope to see accomplished by the Horticultural Societies of our own country. It is only necessary that the standard should be established, and the requisition made that the specimens should be up to that standard.

But if we have not yet, and may not expect to for a long time, equal the magnificent specimens of the English gardeners, we have excelled them in the beauty and variety of our fruits. Nowhere, not even in France or Belgium, do we believe such exhibitions could be made as have been witnessed in this country. Such splendid apples, and such magnificent pears! To the zeal of our own amateurs and professional cultivators we are indebted for the rapid advance in fruit culture beyond that of almost any other country.

A task is imposed both upon the members, and each association itself, which should be thoroughly performed. First, there should be a hearty coöperation in the management. It is not enough that the members should offer pecuniary assistance while they withhold their presence and personal support. Such a course is fatal to the welfare of any Society, and their decadence may be traced to this one cause.

Second, there should be no diffidence among the members in regard to showing. Every one has something to exhibit, and it never should be withheld upon the plea that others have better. Let the best be shown, and if excelled by others let the second trial show the benefit derived from the first defeat. It is this determination not to be excelled, that has done so much to advance the art of cultivation.

Such are the objects, and such have been the results of our horticultural associations. The season has now arrived when we are again to join in the pleasures and excitements of the Autumn Exhibitions, and to aid in rendering them attractive and instructing. Let the best specimens of our industry and skill be reserved for this purpose, even though there be no hope of reward. The reflection that we have done something in the great cause of horticultural progress will be sufficient to incite us to new exertions in behalf of an art so eminently conducive to individual comfort and enjoyment, and the welfare of mankind. Let us welcome this gala season of the cultivator.

THE LITERATURE OF GARDENING.

BY WILSON FLAGG.

No. VII. Sir Walter Scott.*

It is well known that Sir Walter Scott had a great deal of taste for the embellishment of grounds, and for the study of architecture. The wreck of his fortune was owing to the indulgence of his taste, in building and ornamenting his noble estate at Abbotsford, and to the hospitalities so freely connected with it. Sir Walter, however, was not an admirer of what has been termed the English style of landscape gardening. He had a great reverence for the antique, and for whatever has been rendered venerable by age. He ad-

* The article from which this is abridged may be found in Scott's Prose Works, Vol. XXI., English edition.

mired the old-fashioned Italian gardens, though he condemned the puerilities of the Dutch school. Scott is followed in his preference for the ancient styles, by many high authorities; and with respect to the garden, not including in this term the park or other pleasure grounds, it is probable that in future, the ancient styles will have as many followers as the modern. The term *landscape gardening*, which he condemns as misapplied, he thinks was the source of a great many absurdities, by causing certain objects, which ought to be kept entirely separate, to be injudiciously blended. With respect to this term, he remarks, "The art has been unfortunately named. The idea of its being, after all, a variety of the gardening art, with which it has little or nothing to do, has given a mechanical turn to the whole profession, and certainly encouraged many persons to practise it, with no greater qualifications than ought to be found in a tolerably skilful gardener."

Scott's veneration for aristocratic customs is apparent in almost every page of his remarks. He never alludes to small proprietors or to the cottage garden; the lordly domain only has charms for him. Everything (he remarks) that furnishes an additional source of profit or pleasure to a resident proprietor, and induces him to support the useful and honorable character of a country gentleman, is of great importance. Amidst the various sources of amusement, which a country residence offers to its proprietor, the improvement of the appearance of the house and adjacent demesne will ever hold a very high place. Agriculture itself, the most serious occupation of a country gentleman, has points which may be combined with this art. Indeed, these two pursuits, in the author's opinion, cannot be well kept separate, for beauty is, in the idea of the spectator, intimately connected with utility, and good taste is always offended by obvious and unnecessary expense. Horace Walpole, he says, confounds two particulars which our ancestors kept separate, and treated on principles entirely different, viz.: the *garden with its ornaments*, and the *park*, *chase*, or *riding*, which was the proudest appurtenance of the feudal estate.

The garden, more lately, began to assume the character of a pleasure ground, when the increase of civilization caused the feudal baron to permit his high dame to come down from her seat on the castle walls, so regularly assigned to her by ancient minstrels, and tread the precincts which art had garnished for her reception. These gardens were defended with walls, as well for safety as for shelter; they were often surrounded with fosses, had the command of water, and gave the disposer of the ground the chance to display his taste by canals, basins and fountains. As art enlarged its range, new ornaments were successively introduced, banqueting houses were built, terraces were extended, connected by staircases and balustrades of the richest forms. Connected as these ornamental gardens were with splendid mansions, in the same character there was a symmetry and harmony between the baronial palace itself, and these its natural appendages, that recommended them to the judgment as well as the eye.

Scott thinks that Milton did not mean to express his ideas of what a garden ought to be, in his description of Eden, which was only a charming scene in nature. Milton, while speaking of it as a garden, evidently has no intention of recommending it as a model to be imitated by art. A true garden was but an extension of the residence into a certain limited portion of the domain, and was often used as a sort of "*chapel of ease*" to the apartments within doors. It was also often made a scene of festivity and merry meeting. Such were the uses of the old-fashioned style of garden, and its beauty consists, as Mr. Price remarks, in its connection with the house. Nothing, says Scott, is more completely the child of art than the garden. Its artificial productions are necessarily surrounded by walls, marking its space as something totally distinct from the rest of the domain. The greenhouses and conservatories necessary to complete a garden on a large scale, are subjects susceptible of much ornament. It seems right and congruous that these objects, being the offspring of art, should have all the grace of outward form and interior splendor, which their parent art can give them.

Our author expresses his approbation of the formal shapes of artificial waters, seeing no reason, where every other object is formal, why water should be an exception. But wealth, in all these respects, has proved a snare, and played many fantastic tricks before high heaven. While approving Palladian architecture, the vases and balustrades of Vitruvius, the enriched entablatures and superb stairs of the Italian school of gardening, he would not, on this account, be construed as vindicating the paltry tricks of the Dutch. This *topiarian* art came into England with King William, and has left strong and very ungraceful traces behind it. The distinction between the Italian and the Dutch is obvious. A stone, hewn into a graceful ornamental vase, has a value which it did not before possess. A yew hedge clipped into a fortification is only defaced. *The one is a production of art, the other a distortion of nature.* The rarity of these gardens in the Dutch style, entitles them, in Sir Walter's opinion, to some care as a species of antiques, and they often give character to some snug, quiet and sequestered situations, which would otherwise have no marked feature of any kind.

The author notices a small place of this kind, standing on the verge of a ridgy bank, that views the junction of the Evan with the Clyde. Nothing can be more romantic than the scene around. The river sweeps over a dark, rugged bed of stone, overhung with trees and bushes. The ruins of the original castle of the noble family of Hamilton frown over the precipice: the oaks that crown the banks beyond these gray towers are relics of the ancient Caledonian forest, and at least a thousand years old. It might be supposed that the house and garden of *Baracluth*—the name of the above place—with its walks of velvet turf, and its verdant alleys of yew and holly, would seem incongruous, among natural scenes as magnificent as those described. But the effect is the contrary. The place is so small, that its decorations, while they form, from their antique appearance, a singular foreground, cannot compete with, far less subdue the solemn grandeur of the view, which one looks down upon.

They give the idea of a hermitage in the midst of a wilderness.

He regrets with Mr. Price the destruction of so many venerable old gardens, and declares in favor of many parts of the old school of gardening. It was indeed high time that some one should interfere as Mr. Price did. The garden, artificial in its structure, its shelter, its climate and its soil, which every consideration of taste, beauty and convenience recommended to be kept near the mansion, and maintained as its appendage, in the highest state of ornamental decoration, consistent with the character of the house, has, by a sweeping sentence of exile, been condemned to wear the coarsest and most humbling form. He disapproves of the custom of removing it to a distance from the house, and seems to consider it the proper subject of profuse decoration, while he would deny the propriety of extending these decorations profusely into grounds outside of the garden.

Speaking of the park, he says, the space of ground, set apart for a park of deer, must, to answer its purpose, possess the picturesque qualities which afford the greatest scope for the artist. There ought to be a variety of broken ground, of copsewood, and of growing timber—of land and of water. The soil and herbage must be left in its natural state. The long fern, among which the fawns delight to repose, must not be destroyed. In short, the stag, one of the freeest denizens of the forest, can only be kept under even comparative restraint, by taking care that all around him intimates a complete state of forest and wilderness. But the character of the abode, which is required by these noble animals of the chase, is precisely the same which, from its beautiful effects of light and shadow, from its lonely and sequestered character, from the variety and intricacy of its glades, from the numerous and delightful details which it affords on every point, makes the strongest and most pleasing impression on all who are alive to natural beauty. It will be perceived that Scott adheres to the original idea of a park, which was a place for the animals of the chase, and not as at present, a grazing pasture for cattle, half covered with trees.

If the reader, says our author, in his defence of the old styles of building and laying out grounds, will imagine a house in the irregular form of architecture, which was introduced in Elizabeth's time, its varied front, graced with projecting oriels, and its angles ornamented with turrets; its columnar chimneys, so much adorned as to make that a beauty which is generally a deformity; its fair halls, banqueting rooms, galleries and lodgings for interior accommodation—it will afford no uncomfortable notion of the days of good Queen Bess. In immediate and close connection with the mansion, lie its gardens, with their terraces, urns, statues, stair cases, screens, alcoves and summer-houses; its dry-paved or turfed walks, leading through a succession of interesting objects, the whole line of architecture, corresponding with that of the house, with its Gothic labels and entablature, but assuming gradually a plainer and more massive character, as the grounds extended and seemed to connect themselves with the open country. The inhabitants also possessed the means of escaping from those artificial displays, to the sequestered paths of a lonely chase, dark and extensive enough to convey the idea of a natural forest, where, as in strong contrast with the scene we have quitted, the cooing of the wood-pigeon alone is heard, where the streams find their way unconfined, and the trees spread their arms untutored by art; where all is solemn and grand, and seems the work of unassisted nature. He would ask the reader, when he has arranged in his ideas such a dwelling, with its accompaniments of a natural or ornamental character, not whether the style might be corrected, by improving the internal arrangement of the apartments; by diminishing the superfluous ornaments of the *plaisance;* by giving better, yet not formal access to the natural beauties of the park, extending its glades in some places and deepening its thickets in others—for all this is admitted—but whether the people of that generation did not possess all that good taste could demand, as the materials of the most delightful habitations?

Sir Walter next alludes to the revolution in public taste produced by the works of Kent, who is considered the father

of English gardening. Scott is not willing to accord to him the praises which he formerly received, being no friend to his system. Kent, he remarks, too much extolled in his life, and perhaps too much dispraised since his death, was the first to devise a system of laying out grounds different from the prevailing one for a century and a half. It occurred to him, that instead of the marked distinction which was made by the old system, between the garden and its accompaniments, on the one hand, and the surrounding country on the other, it might be possible to give the former some of the simplicity of the country, and invest that, on the other hand, with somewhat of the refinement of the garden. With this view all, or nearly all the ancient domestic ornaments of the *plaisance* were placed under ban. The garden was banished to as great a distance as possible, and the *plaisance* was changed into a pleasure ground. Down went many a trophy of old magnificence, court-yard, ornamented enclosure, foss, avenue, *barbican*, and every external muniment of battled wall and flanking tower, out of the midst of which, the ancient dome, rising high above its characteristic accompaniments, and seemingly girt round by its appropriate defences, looked the queen and mistress of the surrounding country.

The ruling principle, continues Sir Walter, that dictated Kent's innovations, was in itself excellent. The improver was considered a painter, the landscape as the canvas, on which, with such materials as he possessed, he was to display his power. Had he but approached in execution the principle which he adopted in theory, he would have been the great man that his admirers accounted him. But this father of English landscape, though an artist (a painter) by profession, was tame and cold of spirit. His experience had not made him acquainted with the grander scenes of nature, or the poverty of his soul had not enabled him to comprehend and relish them. Even the nature, whom he pretended to choose for his exclusive guide, seemed to have disappeared from him.

While Kent's system banished Art from the province which might in some degree be considered her own, he in-

troduced her into that more especially devoted to nature, and in which the character of her exertions always made her presence offensively conspicuous. For water-works and architectural ornaments, the professed productions of art, Kent produced *ha-has!* [in the very name of which there is affectation] sheets of artificial water, formal clumps and belts of trees, and bare expanded flats on slopes of shaven grass, which, indicating the recent use of the levelling spade and roller, have no more resemblance to that nature we desire to see imitated, than the rouge of an antiquated coquette, bearing all the marks of a sedulous toilette, bears to the artless blush of a cottage girl. His style is not simplicity, but affectation laboring to seem simple.

The remainder of the author's remarks have reference to Sir Henry Stewart's mode of transplanting full-grown trees, and do not strictly come under the head of the Literature of Gardening.

THE SCENERY OF THE SOUTH.

BY ANDREW GRAY, SAVANNAH, GA.

With your permission, I will sketch a little of our southern scenery for the amusement of those of your readers, who are curious enough to wonder if there are any attractive spots amongst the swamps and islands along the southern sea-coast. That they may not be over-disappointed, I will state before commencing the sketch, that it is not a scene of wild and romantic grandeur which fills the mind with glowing and vivid animation, and a desire to roam from shaded glen to rugged crag; but, of that easy and beautiful kind which makes one feel irresistibly inclined to repose in calm contemplation.

Let us take our stand, or rather be seated, to be in harmony with our scene, in front of Rev. W. Woodward's house, on the north point of Dawfuskie Island, about twenty miles E. N. E. of Savannah, and on the Catabogie Sound. This sound, then, with its surroundings, composes our scene. We will

commence directly in front of the house, which is ornamented with the neat and elegant Cassena (Holly) hedge and some flower beds. The proprietor has recently superseded the board kirb with the beautiful Enonymus japonica, (the most suitable edging that could be planted near the salt water south of 36° latitude.) In the centre of one bed stands an old denizen of the forest, here called "Cabbage Tree," or Palmetto Cabbage, in consequence of the centre of the stem near the base of the leaves being used for culinary purposes. A few cassenas, oleanders, &c., with a superabundance of cedars are the next objects which meet the eye; also, a field of palmetto trees, remarkably picturesque, interests the lover of nature, especially one who has been accustomed to tend with care the palm in hothouses. But now, let us throw our vision beyond the land into the calm and placid waters. Not a ripple is seen on the surface of this beautiful lake-like sound; the tide is gently ebbing into the bosom of the deep, and now it is low water, we gaze on it with bewitching pleasure; it is about twelve miles long, and from four to six broad. It is comparatively small, but it has a degree of interest about it which cannot fail to fill the beholder with pleasure. Hilton Head Island bounds it on the north, northeast, forming a kind of crescent; the beach being covered with white shells, contrasts finely with the sombre hue of the pine and palmetto which skirt the margin of this sound. In spring, the distant scene is enlivened by the admixture of the tender foliage of deciduous trees, consisting of oaks, maples, hickory, ash, &c. There is also to be seen at intervals a plantation settlement, having the appearance of a small village, the proprietor's mansion always peering above the others, but all partaking of the same clean and healthy appearance from the use of lime or paint.

As we look directly north is to be seen a small island in the sound, covered with cassena, oaks, and other trees and shrubs, and several other islands of salt marsh. Looking more westward, stretches out miles of salt marsh, which, in spring, resemble a magnificent lawn, or cultivated field under some cereal grain crop. In the back ground, beyond this marsh,

appears the main land, presenting a dense forest of pine, which change little in appearance summer or winter, and we have now got nearly round the sound, so far as we can describe from our present position. On our left, on Dawfuskie Island, and nearly in proximity with this house, is a hummock or clump of cassena and live oaks, nearly in their primitive state; branches crossing branches, some limbs hanging loosely to the ground and sweeping holes in the earth; vines clambering up and tying limb to limb, branch to branch, and towering over the tops, or, perchance, dangling their slender twigs in the air, all blended together in a confused mass; yet, how interesting the scene! It is the handiwork of nature roving in her original wildness, unmangled by the cultivator's knife, and unshaped by cultivated taste!

On the side of a walk leading from the house to the beach is a fine row of Yucca acuminata, about seven feet high, which when in flower, has a very pretty appearance, reminding one of a regiment of soldiers with white plumes; but let this suffice for a description of the scenery surrounding the sound.

Since we commenced to write, a change in the scene has been taking place; a noise is heard in the distance; it is the waters breaking over the bar; it is flood tide and the breeze begins to blow from southeast refreshing and pleasant; the waters in the sound awaken from their sleepy repose, the winds blow harder, and the waves rush on; they are now dashing angrily around us, and a glow of animation lays hold of the soul as we see this change in the waters; but, a boat soon appears in sight, with sail spread and drifting finely before the breeze. A row boat attempts to cross the sound, but labors hard and is tossed by the waves, the brawny arms of the oarsmen ache, and they pant for the shore while they row against wind and tide. We have lost sight of the sail-boat, which is now beyond the little island, having gone several miles, while the other makes little or no headway; but such is life, and I had almost digressed from my subject to moralize, but as I am describing realities, I shall not occupy space which might be devoted to subjects of more interest.

From this brief sketch it will be seen, that even the low

lands of the south, at least in some instances, have their interest, and to live in such a place as I have described, is not quite so monotonous as some may imagine.

August 1, 1856.

HOW TO DESTROY THE MEALY BUG.

FROM THE GARDENER'S CHRONICLE.

In our recent articles on the destruction of insects, we alluded to the disappointment experienced by amateurs and cultivators generally in their gardening operations by the ravages of various insects, and noted the habits and peculiarities of some of the most destructive, to fruit and ornamental trees. We had no space to refer to those which so frequently attack plants and fruits under glass, defoliating, injuring, and often destroying them, and constantly harrassing the ambitious gardener in his attempts to keep in good health and the best condition everything under his charge.

These pests of the forcing department and the greenhouse are exceedingly numerous, and some of them very destructive; while others, without being so injurious, are filthy in their habits, and so greatly disfigure the plants they infest, that only in their absence can a fine specimen be obtained. Of the latter character is the Mealy Bug, now become much more common than formerly, and more or less abundant in all glass houses where fire heat is kept up through the winter. They delight in a warm atmosphere, and when once established in such a place it is a tedious process to dislodge them, or even materially diminish their numbers. Nothing but constant attention will effectually banish them from our collections. It is therefore with much pleasure that we give the following article on the destruction of the Mealy Bug, believing that if the writer's advice is followed carefully their ravages will be materially checked, if not wholly stopped:—

Mealy bug, when once thoroughly established in our glass houses, has been found by most gardeners to be a most de-

structive and pertinacious pest, so much so that many well qualified men have hesitated to take charge of a collection of plants where it was known to exist to any great extent. Having had to encounter such difficulties as those just stated, and at the same time having had the good fortune to completely overcome them, I have been led to believe that some account of the modus operandi by which such a result was arrived at might be useful. Let us however commence by describing the general condition of the stock when I first took charge of it, and then pursue in the form of a journal, step by step, the way in which the work of extermination was conducted, and the restoration of the plants to health effected.

Orchid House and Stove, April 13, 1854.—Here I found a miscellaneous collection of plants, several of which would have been better accommodated in the greenhouse. Tacsonia mollissima, in a pot trained along the back wall, was well covered with mealy bug; Stephanotis floribunda, Petrea volubilis, Combretum purpureum, Allamanda cathartica, Jasminum Sambac, were the permanent climbers; these, with the exception of the Allamanda, were very badly affected with insects. The Stephanotis occupying a considerable space had been sponged frequently, the leaves were generally clean, but at their axils there existed as healthy a brood of scale and bug as could possibly be desired. This remark also applies to the greater part of the plants all over the establishment; in short, the general appearance was such as to convince an experienced person that fire-heat had been used unsparingly, and that a high temperature and a close atmosphere had been the guiding rule. The leaves were pale in color, and many of the plants had made premature growth. Saccolabium guttatum, in a large basket, and Aerides odoratum in a similar position, were the two best plants in the collection, and had they not been closely connected with bad neighbors I might have stated that they were clean. Dendrobium speciosum, Cattleya, crispa, and many others were covered with white scale and mealy bug; Oncidium Papilio, carthaginense, and two or three others were dead, or so far gone that there was little hopes of their recovery.

Early Vinery.—In this house the grapes were setting an abundant crop, the leaves were large and flabby, an excessive quantity of water had been used and they had the appearance of being clean. Camellias were growing beneath the vines, and they also looked clean. The person who showed me round informed me that the year previous "the bug" got amongst the ripe fruit and caused great trouble. I observed that the vines had not had any winter dressing, consequently I looked forward to the future with anxiety.

Second House of Grapes.—The vines here were coming into bloom, the outside border had been tampered with the previous summer, and the growth they had made and were making was weak. On examining the foliage I found bug, and here also the vines had not got any winter dressing. This house was full of plants, chiefly such as will grow well in any intermediate house, with the exception of a few begonias, which were all in a dirty state; black scale, mealy bug, and red spider were the principal insects. Adjoining this house was a small division, consisting of four lights, which had been taken from the above house at some former period for the purpose of preserving pine apples in when ripe, or for a small division of early grapes. In the pit of this house were plunged two or three Francisceas, an Ixora, and a large Euphorbia splendens. On the back wall was trained Cereus grandiflorus profusely intermixed with a trailing Solanum. Vines were planted in the outside border, and had grown the full length of the rafters; they had not been pruned back, and were now making laterals. I had not seen anything so weak, and bug and red spider were plentiful throughout the house.

Greenhouse or Conservatory.—A deep back wall, together with a mass of stone in front, gave little hopes of growing anything with advantage here. The house was literally full of plants. Vines were also trained to the roof, and exhibited better health than anything I had yet met with. As they had attained a good age, and as a gravel walk was their only border, I came to the conclusion that the subsoil

must be good, and that the natural soil of the garden agreed with them. Amongst the plants there was nothing remarkable.

Late Vinery.—The vines in this house were just breaking, the wood had been well rubbed over with sulphur, large quantities of which were still adhering to the stems. The buds were numerous and weak, and not so far advanced as to indicate with certainty whether there would be fruit or not. This house also contained a great number of plants, such as azaleas, camellias, &c.

Orchid House and Stove during May.—Having procured a bottle of turpentine, two pounds soft soap, one pound common soap, several pounds of sulphur, a couple of painters' sash brushes, half a dozen camel-hair pencils, and a few gallons of tobacco liquor, I untied the plants, and after rubbing the trellis and all suspicious parts of the woodwork with turpentine, I carefully commenced cleaning the plants. Every part was first examined with a pencil dipped in turpentine; on portions of the two-year-old wood where insects were plentiful the pencil was worked freely, a split in the wood or a crevice in the bark was not allowed to escape; parts of the leaf least susceptible of injury were also operated on freely, but towards their axils and around the buds great care was taken to touch the insects only. This requires a steady and practised hand, and ought to be well done; the pencil when fresh dipped should not be applied immediately; draw it once or twice across a small piece of wood kept for the purpose; after doing this, I have generally found sufficient strength remaining to destroy the bug, and there is less danger of the turpentine spreading and injuring the leaf or buds. The second process consisted in washing the plant well with soap and water. In doing this, common soap was used plentifully; a common painter's sash brush was first put into water, then rubbed on the soap, then applied to the plant and so on alternately, according to the good sense of the workman, from the root up to the tender points of the young shoots, which were carefully hand picked. When the soap and water process was finished, the plant was well washed with clean water

applied with force from a syringe. The young shoots mentioned as being handpicked were then dipped in tobacco liquor, and the plant trained or placed in its former position. Ventilation from the roof was afforded at all times, and very freely from the windows and door, when the thermometer stood at or about 75°. Fires were kept very low, and the night temperature at from 50 to 60°.

Early Vinery during May.—When thinning the grapes, the pencil and turpentine were constantly at hand, and applied to the ripe wood or parts of the leaves, as before described, wherever bug was observed. The grapes were thinned extremely, so that when the bunch was tied out every berry hung separately, and the interior of the bunch could be examined with facility. This I found to be of the utmost importance. The vines were syringed once a day in clear weather; air was admitted more freely as the vines were able to bear it, and by the end of the month the utmost freedom was used in this respect. Camellias having set their flower buds, were moved outside under shelter, and the house was rendered as open as possible.

Second Division of Grapes during May.—As the vines were coming into flower water was withdrawn for a short time, during which, insects of different kinds made rapid progress. The pipes were well painted with sulphur, turpentine was sprinkled freely on the floors, and the house was shut close during the night. Tobacco smoke was also employed. These measures in some degree were doubtless effective in stopping the increase of my tormentors, but all would have been of little avail had there been no syringing for a length of time. On the evenings of fine days water dashed freely amongst the vines and plants, and on the roof and walls of the house, together with a free circulation of air and moderate fires, was my best resource. Some plants I thinned out, and others were pruned hard in, while repotting and washing with soap and water was a daily business. The pencil and turpentine were hanging at all times in the house ready for use. In the small division adjoining this house the plants were repotted and cleaned, and the vines were encouraged to make

laterals, there being no help for them but cutting down in the autumn.

GREENHOUSE OR CONSERVATORY DURING MAY.—Many of the plants here were removed, and the house was thoroughly cleaned. In rearranging, a few of the more hardy stove plants were brought into this house.

LATE VINERY DURING MAY.—The vines here were disbudded at once, and as it was evident there would be no fruit, only such shoots were left as were intended to produce fruit the following year. Liquid manure from a farm-yard tank was applied to the border, and by the end of the month the foliage was changed to a dark green. It was in this house that the mealy bug first made its appearance sixteen years previous to this present time. A climbing plant, the name of which I could not learn, was bought at a London nursery, and sent down with instructions to be planted and trained on the trellis on the back wall. It was planted there, grew rapidly, and got intermingled with the vines, the insects spread over the fruit, and the then gardener said, "I syringed with glue-water, and made use of all manner of things, but to no purpose; the pest overran the whole house and spoiled the grapes, and it has now got into the wood and no one has been or ever will be able to get the better of it." The plants in this house went through the same process of cleaning as the others, the large azaleas were syringed with tobacco-water to destroy thrips. Fires were not lighted; the house was syringed two or three times weekly, according to the state of the weather, and ventilation was well attended to.

ORCHID HOUSE AND STOVE DURING JUNE.—This month found the general health of the plants improved. In the case of Hoyas, Russellias, Stephanotis, and others making their young wood, the bug seemed to grow with it; no sooner did a bud break than this pest made its appearance. Where it came from it was not easy to say; the circumstance reminded one more of a constitutional disease than the attack of an enemy. To find the source of the evil was difficult. One thing was always observable, viz., that after a close heat of 90° or 95° the insects increased in numbers; many of the

plants required this temperature. A large Musa Cavendishi planted out in the centre of the house had to be washed, the worst of the others were also washed, and many of the young shoots pinched off. A low temperature, careful syringing, and good ventilation were still my best remedy.

Early Vinery during June.—Here many of the grapes were beginning to change color, consequently water was not so freely administered; the partial change was much to be feared. It was soon apparent that the crop would be lost if a remedy was not found. To continue the syringe would destroy the bloom only, the grapes would still be clean and good. Thus I argued and acted; I had seen bruised laurel leaves recommended, so I had armfuls of the young shoots with their leaves placed along the floors of the house, and with a beater, something like a plumber's dresser, they were well bruised on the spot and strewed wherever there was space for them to lie. The house was shut close and left about 5 o'clock in the evening; on going again at 9 o'clock I felt satisfied. The following morning it was observed that the bug when touched was not able to retain its hold, but dropped to the ground. I therefore resolved to place common laurel shoots in all the houses, bruise them in the same manner, and to continue them for a time. This occurred about the last fortnight in June. As the leaves became withered turpentine was sprinkled over them; the effect of all this upon the foliage was very remarkable, it assumed the most healthy appearance, so that while common laurel leaves were my best remedy for destroying insects, they were also an excellent assistant to the plant.

Second Division of Grapes during June.—The grapes here were thinned and the bunches tied out, as in the case of the early vinery. No more of the young wood was allowed to remain than was necessary for the health of the vine. All false ties and whatever would in any way harbor insects were removed, and every freedom possible given to the full play of the syringe; the pencil dipped in turpentine was constantly ready for use. This house being much larger than the early vinery, I had doubts whether the laurel shoots would have so

good an effect; the quantity was therefore increased, and the pest if not absolutely eradicated was at least entirely subdued. I felt myself once more at ease with respect to my work of extermination, knowing as I then did that with a little extra exertion success would be the certain result.

GREENHOUSE OR CONSERVATORY DURING JUNE.—A constant exchange of plants was carried on here. Greenhouse kinds were removed outside, and their places occupied by others from the warmer plant houses.

LATE VINERY DURING JUNE.—Azaleas and camellias were taken out, and begonias, achimenes, &c., introduced in their room. The vines, on which was scarcely any fruit, were making good wood, and a perceptible improvement was evidently taking place all over the house. Liquid manure was administered freely to all the borders every two or three weeks throughout the growing season.

JULY, AUGUST, AND SEPTEMBER.—A few general remarks will be all that are necessary during this period of the year. Every plant was examined at least once a week; the vines still more frequently; not a leaf was allowed to grow but such as was of paramount importance. The bunches, which are more liable to be attacked than the leaves, required most attention, and a suspicious bunch was managed in this way: —A light tin dish was so strung with wire as to hang immediately under the bunch, the bottom of the dish was then covered with turpentine; this brought the bunch into close contact with the vapor of the turpentine. Again, in a bunch where the bug was to be seen, a berry was cut out and the pencil dipped in turpentine very carefully introduced; the common laurel leaves used as formerly stated had brought the insects under manageable control, and all that was now wanted was attention to details to complete the work of destruction. Thunbergia grandiflora, on a back wall, showed a great liking for bug; the old leaves and wood were to all appearance quite clean, but no sooner did a young shoot make signs of growth than this pest appeared in clusters on its point. The only remedy I applied to such free growing subjects was to pinch the shoot off, curtailing the growth until it

became clean, with an occasional dip in tobacco liquor. Ixoras, although previously cleaned, were about this time cut down level with the pot; the plants were old and had not been accustomed to this treatment; they all pushed well, and made good plants the following summer. Gardenias, from some cause, were the most troublesome of any; they were pale in color and sickly to commence with, and looked as if I should lose two or three out of some seven or eight of florida and Fortuni. The plants were from one to three feet in height, the least touch of turpentine inflicted the greatest injury, and the bug seemed to congregate on the smooth part of the bark. In this state they continued through the months just noticed.

OCTOBER, NOVEMBER, AND DECEMBER.—To find a bug was now a rare occurrence, the temperature of the houses was considerably reduced, and the use of turpentine entirely dispensed with. I considered the whole clean and the general health of the plants established; I was assured, however, that I should have a return of the old enemy in full force the ensuing spring. That another season would prove whether my work was effectual or not I was well aware, but I had observed too many efforts of my tormentor to return prove fruitless to have any fears regarding it. In the early part of the period now under notice the early vines were pruned, the loose bark rubbed off, and they were dressed over with the following mixture, viz: one pound soft soap and two pounds sulphur mixed together in the form of dough. Should there be any difficulty in uniting the sulphur with the soap the application of a little heat will overcome it. A portion of this was taken as required, diluted with warm water, and well rubbed over all parts of the wood with a painter's brush. There may be some who would recommend an addition to this mixture, others who may think it too strong, especially when applied to the young wood. I have, however, found it efficacious for all the purposes required, and I have never known it to do any injury; it has no unsightly appearance, nor does the syringe act upon it disadvantageously. About this time a few of the orchids were shifted, many of them

were placed on hard blocks, using very little moss, and taking care to leave a clear descent for the water falling from the syringe, which at this season was seldom used, but when required was applied with considerable force.

JANUARY AND FEBRUARY.—ORCHID HOUSE AND STOVE.—During these two months a complete overhaul was effected in this department, in which no insect, certainly no bug, was to be found. Saccolabium guttatum and Aerides odoratum were removed from flat baskets and placed upon large blocks, standing nearly upright. In this position the syringe had full play, and during the blooming season their flowers were seen to advantage. Lapageria rosea and other plants showing symptoms of growth were encouraged to do so. In early vinery the vines pushed into leaf in a healthy manner, although at this period there was severe frost, and from this time forward I saw no more bug.

In order to accomplish the work just recorded no extra hands were employed, nor did I want them; a little extra exertion for the first three or four months on the part of the regular workmen was all that was required; afterwards the work became lighter, and of course the need for extra labor diminished. I may add that in my attempts to destroy insects I have at different times made experiments with other substances besides those I have pointed out, but I have found that caution united with energy in the use of such remedies as we do possess a knowledge of, is much more beneficial than tampering with things of which we may have but an imperfect acquaintance.

PEABODY'S NEW SEEDLING STRAWBERRY.

BY CHARLES A. PEABODY, COLUMBUS, GA.

DEAR SIR,—I send you the following remarks to accompany the engraving (FIG. 22,) of my new Seedling Strawberry. I have been for many years experimenting with seedling strawberries, and have produced many hundred seedlings,

22. PEABODY'S NEW HAUTBOIS STRAWBERRY.

many of them of superior size, flavor, and beauty, but none that unites all the qualities that make a perfect berry, until I originated this new Hautbois. This berry was produced by crossing the Ross's Phœnix with a wild strawberry of Alabama. The engraving can convey but a very imperfect outline of the beauty of the fruit.

The vine grows enormously large, (I have single plants that cannot be covered with a half bushel measure.) The fruit is borne upon tall, erect footstalks, suspended on stems from three to five inches long. Fruit of the largest size, often measuring seven inches in circumference, of a peculiar and beautiful form, with a somewhat irregular surface, flesh firm, sweet, melting, and juicy, of the most exquisite pine apple flavor. The fruit next the calyx is without seeds, and presents the appearance of polished coral. When fully ripe, the color is a rich deep crimson.

The vine is a vigorous, hardy grower, bearing with impunity great degrees of heat and cold, beginning to bloom as soon in the winter as the mild weather can start the blossoms, and continues to bloom until the settled weather of spring can perfect the fruit. It is a capital plant for the greenhouse, for by protecting it from frost, it will fruit in winter. The plant is hermaphrodite in character, and for one of that class, a most prolific bearer.

It is often remarked by amateurs that have seen it growing in my grounds, that if the fruit was not edible, it would be worth a place in any gentleman's grounds for the wonderful beauty of the plant when in fruit. But its remarkable size, beauty, and exquisite flavor is not all its recommendation; it bears transportation and preserves its flavor better than any strawberry ever introduced. As proof of this, on the morning of the 9th of May last, I picked a case of these berries, carried them to Columbus, six miles, in my buggy, sent them from Columbus to Savannah, three hundred miles by railroad, from thence to New York, eight hundred miles by steamer, to Messrs J. M. Thorburn & Co.

The following is an extract from a letter from the Messrs. Thorburn, acknowledging the reception of the berries:—

Mr. C. A. Peabody,—Dear Sir—The Strawberries came to hand on the afternoon of Tuesday, sound, and in very good condition, retaining an unusually strong strawberry aroma. The berries have *wilted* down only a very little up to this time, Friday morning, May 16th. Yours, truly, J. M. Thorburn & Co. *New York, May 16th*, 1856.

Thus, it will be seen, that after a journey of over eleven hundred miles, by carriage, railroad, and steamer, the fruit was perfectly sound, just one week after it was picked from the vines. Connoiseurs pronounce this new Hautbois superior to Burr's New Pine in flavor; for its size and general appearance, I refer your readers to the engraving.

I have had no little experience in strawberry culture, having devoted the last fifteen years of my life almost exclusively to that one object. And I say, that when we take into consideration hardiness, size, vigor, productiveness, beauty and keeping qualities, this is the most remarkable strawberry ever introduced.

THE HICKORIES.

BY WILSON FLAGG.

The hickories are peculiarly an American genus of trees, being very generally distributed throughout this continent, and found in no other part of the world. Though allied to the walnuts, they are distinguished from them, in their foliage, by having on an average only about half the number of leaflets; in their fruit, by a husk that opens in five seams, while in the walnut it is undivided; and in their general appearance, by rising to a greater height, with less length and spread of their lateral branches. In their ramification and spray, they bear some resemblance to the white oak, their larger branches being considerably contorted, and their terminal branches irregular and obtusely angular. A large proportion of the hickories send up a single shaft like

the coniferous trees, from which the lateral branches come out at first with a sharp angle, but soon bend downwards, so as to make a number of twisted, rectangular junctions. The white oak has a similar ramification; but the lateral branches of the hickory are comparatively short and small, and, with the tall shaft, form a sort of columnar head, less rounded than that of the oak. These trees are usually somewhat flattened at the top, and assume a cylindrical form, when they make any approach to regularity. They are often very irregular in their growth, exhibiting frequent spaces which are not filled with branches, and presenting several distinct masses of foliage. These gaps do not extend all round the tree, and seem to be occasioned by the shortness of the lateral branches, which sometimes do not equal in length the distances between their unions with the trunk.

The hickory, therefore, except when young, is seldom an elegant tree, as elegance requires the union of grace and symmetry. Its recommendations are its sturdy habit, its great altitude, its dense and beautiful foliage, its approach to the cylindrical form, and its dissimilarity to other trees. I have never seen a hickory with broad spreading branches, like the butternut, which is greatly inferior to it in foliage. The different species of this genus are so common in New England, as to form, like the elm, one of the distinguishing features of our landscape. In Massachusetts and the older settlements, we see them following the lines of the stone-walls, by the side of which they have sprung up spontaneously in that border which generally lies fallow, because it is not within the reach of the plough. We are indebted to this fortunate circumstance for tens of thousands of valuable and beautiful trees, which, but for this narrow strip of neglected land, would never have been allowed to "cumber the ground." The trees that have grown up in these situations have evidently had opportunity to expand, and acquire their natural shape and full dimensions. Hence as we see the majority of them running up to a great height, with but little spread, like trees that have been left in a clearing, we are justified in considering this shape as the natural habit of the genus.

These trees are also abundant on fertile slopes, near brook-sides, and on rocky hills that abound in clay or yellow loam; but they do not flourish well in light sandy soils and are seldom found in bogs. They are even better indications than the oak of a fertile soil. All the species of hickory are very beautiful in the autumn, when their leaves invariably assume a bright yellow tint, varying only in their shades, and gradually turning to russet before they fall from the tree. Their foliage has a general resemblance to that of the ash, but it is more dense and heavy, and of a darker green. It is so heavy indeed, that we seldom find a tree whose branches have not acquired a drooping habit from the weight of the foliage, in which it is surpassed only by a very few species. I am inclined to believe that if the hickory were a wide-spreading tree, there is no other native tree of our forests that would afford so nearly an impenetrable shade.

Of the hickories there are four species which are common and well known in New England, the *Shellbark*, the *Pignut*, the *Mockernut*, and the *Bitternut*. These different species, considered as ornamental trees, have nearly the same characteristics, differing more in the number of leaflets, in their compound foliage, and in the shape and character of their fruit, than in their general appearance. They are all, at a little distance, liable to be mistaken for one another. I have seen the bitternut with foliage as heavy as that of the shellbark, and the latter with small nuts, and leaves as small as those of the ash. Individuals of the same species differ also in the number of their leaflets; and I should be disposed to class them under only three divisions—the shellbark, the pignut, and the bitternut, considering the mockernut as but a variety of the pignut.

The wood of the hickory is exceedingly hard and tough, and for certain purposes more valuable than that of any other tree. For the handles of chisels, gimlets, augers, axes and other tools, for the teeth of wooden rakes, for mallets and beetles, bows for yokes, springs for carriages, and for all those articles of wooden manufacture which require hardness and strength, and which are not to be exposed to the moisture of the

weather, the wood of the hickory is of the highest value. As fuel it is superior to any other known tree, and in comparisons of the value of different kinds of wood the hickory is numbered one hundred, and the hardest of other common kinds of timber some units less.

Of all the species just enumerated, *the Shellbark (Carya alba)* is the most valuable, on account of the superior excellence of its timber and its fruit. It may also be considered the most ornamental on account of the wider spread of its branches and the greater density of its foliage. At a distance this species seems to put out its leaves in tufts like the chestnut, as I have already observed, owing probably to the drooping of the three terminal leaflets. The leaves of this species are almost invariably in fives, the lower pair of leaflets being smaller and narrower than the terminal ones. In young trees I have frequently found them in sevens. The shellbark is remarkable for the exfoliation of the outer rind of its bark, after it has attained a certain size, and from this circumstance it has derived its name.

The nuts vary in quality in different trees; and it is the opinion of those who are authority in these matters, that the fruit, by careful selection of superior varieties, might be indefinitely improved. The husk is very thick, opening in the latter part of October into four distinct pieces, as soon as the hard frosts arrive. The wood of this species is regarded as having the peculiar qualities of the hickory in the highest degree, and it is more easily cleft than that of the pignut. The shellbark does not extend far beyond the southern boundary of New Hampshire, in a northerly direction, but it is found in all the Western states, and as far south as North Carolina.

The Pignut (Carya porcina) differs from the former species by its bark, which is channelled and furrowed like that of the ash, by its greater height and smaller lateral branches, and its smaller leaves, which have leaflets varying in number from three to seven. These, when crushed, exhale a pleasant and peculiar odor. The unhardened shoots are smooth and of a fine purple hue. The fruit varies in

shape and size, though commonly *fig-shaped.* This epithet (ficiformis) has been applied to the species; and it seems to me highly probable that its customary name *pignut* may have been a corruption of *fignut*, which is a more agreeable appellation, and ought to be restored. The kernel of the nut is small, extracted with difficulty, and inferior in flavor to that of the shellbark. The pignut appears to be the most common species in this part of the country. It attains comparatively a great height, rising sometimes as high as sixty or seventy feet. In its shape it has more of the characteristic points of the hickory genus than any of the other species, having less spread than the shellbark, and less gracefulness than the bitternut.

When divested of its foliage, this species is distinguished by the comparative slenderness of its recent shoots, the small size of its oval buds, and the shortness of its lateral branches. Its autumnal tints are of a deep yellow, gradually fading to russet. The fruit, which is often produced in clusters, commonly remains on the branches after the fall of the leaves. The wood of the pignut is cleft with more difficulty than that of the other hickories, a quality that increases its value for many important purposes.

The Mockernut (Carya tomentosa) has a great resemblance to the shellbark, in its general habit of growth, in the large size of its leaves, and in the qualities of its wood. It differs from it in having a greater number of leaflets, and in the strong balsamic odor emitted from its buds, husks and foliage; though in this last respect it is not sensibly unlike the pignut. It has the largest foliage of any of the hickories, resembling the shellbark in its ramification, and the pignut in its bark and trunk. This, like all the other species, throws out its branches at first very obliquely from the shaft, but they commonly bend downwards as the tree increases in size, and acquire an irregular and contorted appearance. This habit seems to be the effect of the heaviness of their foliage, and is therefore less apparent in the bitternut, which has foliage of a lighter description. It does not seem to be owing to the weight of the fruit, as in the pear tree, since it may be observed in trees that have not yet produced fruit.

The fruit bears an external resemblance to that of the shellbark; but on account of the thickness of the shell, and the difficulty of extracting the kernel, it is considered worthless. It varies in its shape, size and quality in different trees, which seem to me, in this species, to comprehend the endless varieties of the hickory, that form the connecting links between the shellbark and the pignut.

The Bitternut (*Carya amara*) has marks which are unquestionably distinctive. The first time I saw this tree I mistook it for an ash, which it strongly resembles in its foliage and its general aspect. But it is easily distinguished by observing that its smaller branches are alternate, while in the ash they are opposite. This tree, however, seldom spreads so much as the ash, nor is it so equally and uniformly subdivided. These points of resemblance to the ash may be considered the marks that, setting botanical differences aside, chiefly distinguish it from the other hickories. One peculiarity in its ramification consists in having its greatest width above the middle of its mass of branches. Its branches are usually less contorted, and its bark is lighter and browner than in the other species, in which it approaches more nearly to a leaden or slate color.

The leaves of the bitternut are on slender stalks, and exceed the other species in the number of the leaflets, which are from seven to eleven; but I have seldom met with a tree that had more than seven leaflets on a stem. These are usually small and narrow, not bending the branches down by their own weight so much as in the rest of the genus. The nut of this species is large, with a thin shell and husk, and may be known by the winged projections at the seams. The kernel is very bitter and unpalateable. The wood of the bitternut has the qualities of the other hickories in an inferior degree.

The general marks by which these different species may be distinguished at a distance may be thus enumerated. The pignut is the tallest in proportion to its width, has the most contortions, and more frequent breaks in its ramification. The bitternut spreads more at the top, its branches are longer

and bend downwards in a less degree, and the whole tree is comparatively trim. The other two species have a heavier foliage, and a greater spread of the lateral branches.

Had the old painters been familiar with the hickory, they would have greatly admired it. The peculiarity of its shape is remarkable; and the breaks in its foliage yield it that variety and irregularity of outline which are generally admired in very old trees. While I am writing, directly before my sight is a hickory, standing on an elevation that renders the sky its only background. It is very tall and narrow in its shape, and is divided into five distinct masses of foliage, separated by a considerable space. Two of these masses are on the right side, and three on the left—the highest mass forming a flattened top, and projecting over the right side; while on the opposite side, it droops in a large flowing drapery of leaves and branches.

OUR ORNAMENTAL TREES.

BY THE EDITOR.

7. The Virgilia, or Yellow Wood. (Virgilia lutea, *M.*)

The Virgilia is another of our forest trees, so rare out of its native woods that few have ever seen a good sized specimen, and many scarcely know that such a tree exists. We know of but three or four large trees in our neighborhood, though there may be others. One of these is at the Botanic Garden, Cambridge, Mass., and the other in the nursery grounds of the late Messrs. Winship of Brighton, both flowering abundantly every season. There are also fine trees in the old Bartram Garden in Philadelphia, the largest of which is fifty feet high. Even Loudon, usually very full and complete in his history and description of the trees he enumerates, devotes but a small space to the Virgilia. It does not appear to grow rapidly in Great Britain, as the largest specimens he mentions were only twenty-five feet high. Probably the climate is too cool and moist. It was not introduced until

1812, and is yet far from being as common as most other American forest trees.

The Virgilia (FIG. 23,) is a most beautiful tree, and has too long been neglected by ornamental planters. It is a native of Tennessee, and mostly confined to that part of it between the 35th and 37th degrees of latitude, where it is known as the Yellow Wood. It was found by Michaux,

23. THE VIRGILIA, OR YELLOW WOOD TREE.

who collected the seeds in the vicinity of Nashville, in 1812, and distributed them in France, from whence have sprung the trees now found in most gardens in Europe.

The Yellow Wood greatly resembles the Sophora in its habit, flowers and growth, and the elder Michaux was of the opinion that it belonged to that genus. It also approaches

the common locust in its appearance, having similar pendulous clusters of white flowers.

The tree grows in its native locality to the height of thirty or forty feet, rarely exceeding forty, and in general not attaining these dimensions. The bark is smooth, of a greenish color, and never furrowed as in most other trees. The leaves are six or eight inches long, and composed of two rows of leaflets, from three to five on each side, terminated with an odd one. The lower part of the footstalk contains the bud. The flowers, which appear in pendulous bunches, are of elegant form, white and fragrant. The seeds resemble those of the locust, and are contained in pods that differ only in being narrower. In its native habitats it grows of preference on gentle declivities in a loose, deep and fertile soil, usually accompanied by the coffee tree, black walnut, &c.

The Virgilia is easily raised from seeds, which may be procured in abundance in the West. They should be planted in boxes in the autumn, and have the shelter of the greenhouse or frame during winter, in either case protecting them from the attacks of mice. They will vegetate early in spring, and before autumn make nice plants. After another year's protection in a cold frame they may be removed from the boxes to nursery rows, in a light rich and well drained soil, where they will soon make handsome trees. The Virgilia may also be propagated from layers, but it is a slow process. It may be also increased by grafting it upon the Sophora japonica, as now practised in France, where the latter is abundant. Though confined to so limited a space, and so far south as Tennessee, it is perfectly hardy, and young trees in our grounds have never had a limb injured by the winter. Its rate of growth is moderately rapid, attaining the height of sixteen to twenty feet in ten years.

The Yellow Wood ranks among the finest of our ornamental trees. Less massive in foliage than the Magnolia, and less showy in its flowers, it is still no less attractive. The airiness of its finely pinnated leaves, the beauty of its pendent clusters of fragrant white flowers, and the lively tint of its gay yellow foliage in autumn, renders it an object of admiration at all times.

FLORICULTURAL AND BOTANICAL NOTICES.

New Phloxes.—This showy tribe of plants, the grandest among our many hardy perennials, has been greatly improved by the English and French cultivators, and also by the skill of our own amateurs and nurserymen. The varieties have now become numerous, and some of the newer sorts remarkably beautiful. We have never held this flower in such estimation as we do at the present time; the plenteous rains of August, the period when they are in the greatest perfection, has given a vigor and growth to the plants which we have not seen since many of the kinds have been introduced, and they have thrown up such stout stems, crowned with such magnificent panicles of flowers, that they have quite eclipsed all the other plants around them.

Last year we noticed some of these new varieties; the following are additional, and some of them entirely new:—

Madame Hermance—Blush, with violet eye; large flowers in broad flattish heads; flowering after the early sorts, and before the late ones.

Baron de Villers—Lilac rose; very large finely formed flower; heads very large; late.

M. Hardy—Rose, with carmine eye; large flower and fine clustered heads; late blooming.

Madame de Vatry—Lilac rose, with crimson eye; large flower and large heads; late.

Jaune Rouillard—Blush, with violet eye; large round flower, and beautiful compact head; late.

M. Rical—Crimson, with carmine eye; flower medium size, very finely formed; heads of flowers very large. This is one of the brightest colored of all phloxes. Habit very robust; late.

Mademoiselle Albertine—Pale lilac, with large white eye, similar to Gem; flower large and round, appearing in elongated heads or spikes; late.

Carmarina—White, finely striped and pencilled with deep rose; flowers large and very round, in flattish heads like Mad. Hermance; flowering at the midseason.

La Candeur—Pure white; flower finely shaped; clusters large; late.

Laurent de St. Cyr—Bright rose; flowers in very large heads; robust habit; late.

325. PHYTELE'PHUS MACROCA'RPA *Ruiz and Pavon.* LARGE FRUITED IVORY PLANT. (Phytelephántheæ.) S. America.

This is the celebrated Ivory plant, so called from its nuts supplying the place of the Ivory-bearing animals, once so abundant in the new world.

Within a few years the consumption of the vegetable ivory has rapidly increased, and many hundred tons are imported annually into Europe and the United States. From it are manufactured toys, knobs of walking canes, &c. It so nearly resembles the ivory obtained from elephants, that it is often palmed off as such, and is even employed by mechanics, as far as its size will allow, in place of that article.

The Ivory plant is nearly allied to the palms. Its growth is confined to the Continent of South America, where it grows between the ninth degree of north and the eighth of south latitude, and the 70th to the 79th of west longitude, inhabiting damp localities, in valleys and on banks of rivers and rivulets, often as high as 3000 feet above the sea.

It is generally found in separate groves. The trunk is always pulled down, partly by its own weight, partly by its aerial roots, and thus forms a creeping stem, often twenty feet long, but seldom higher than six feet. The top is crowned with palm-like leaves, which are eighteen or twenty inches long. The plants are diæcious. The flowers emit a most penetrating, almond-like smell. These, in the female plant, are succeeded by the fruit, which form clusters as large as a man's head, at first erect, afterwards drooping, and contain seven to nine of the nuts. A plant bears at one time from six to eight of these heads, each weighing, when ripe, about twenty-five pounds. The seeds at first contain a clear, limpid fluid; this afterwards becomes milky and sweet, and it changes by degrees as it acquires solidity, until at last it is as

solid as ivory. From these kernels are manufactured the toys, knobs, &c., which are whiter than animal ivory, and equally hard if not put under water; if they are, they become white, and hard again when dried.

Both the male and female plants have been introduced to Europe, and each have flowered; the male at Schonbrun, and the female at Kew, both in 1855. Their immense leaves render them ornamental objects in the palm-house. (*Bot. Mag.*, 1856, pl. 4913 and 4914, for May.)

326. Cóffea Benghale'nsis *Roxb.* Bengal Coffee. (Arabiàceæ.) India.

A hothouse plant; growing three feet high; with white flowers; appearing in spring; increased by cuttings; grown in light rich soil. Bot. Mag., 1856, pl. 4917.

A beautiful species of the real coffee of Arabia, of inferior quality for its fruit, but conspicuous for the number and beauty of its white flowers. It has a foliage similar to the Coffee plant, and flowers resembling somewhat the Single Cape jasmine, but larger, and produced in far greater profusion. It is a pretty addition to hothouse collections. (*Bot. Mag.*, May.)

327. Perne'ttya fu'rens *Klotzsch.* Maddening Pernettya. (Ericàceæ.) Chili.

A half-hardy evergreen shrub; growing two feet high; with white flowers; appearing in spring; increased by layers and cuttings; grown in heath soil. Bot. Mag. 1856, pl. 4920.

A beautiful shrub, with light foliage, producing dense racemes of white, waxy, heath-like flowers, which appear in March in the open ground in England. With us it would probably require the protection of the greenhouse or frame, as it is a Chilian plant. The leaves are small, ovate and serrated. (*Bot. Mag.*, June.)

328. Aristolòchia Thwa'itesii *Hooker.* Mr. Thwaite's Aristolochia. (Aristolochiàceæ.) Ceylon.

A hothouse plant; growing six inches high; with yellowish flowers; appearing in spring; increased by cuttings; grown in leaf mould, peat and sand. Bot. Mag., 1856, pl. 4918.

A remarkable species of the curious Aristolochia, or Dutchman's pipe, with a tuberous stem, from which fleshy roots are emitted, and bearing above, a cluster of several erect

downy stems, nearly their whole length. From the top of the *rhizome* the flower stalks appear, in erect clusters, three inches long, bearing a raceme of fragrant blossoms, of which on each raceme only one opens at a time: these flowers are yellowish, and, with their curious pipe-like form, have an attractive appearance. It is of simple culture. (*Bot. Mag.*, June.)

329. Cla'vija orna'ta *D. Don.* Elegant Clavija. (Myrsineæ.) New Grenada.

A stove shrub; growing ten feet high; with orange-colored flowers; appearing in spring; increased by layers; grown in light rich soil. Bot. Mag. 1856, pl. 4922.

A magnificent plant, growing to the height of ten or twelve feet, with a tall, bare stem crowned at its summit with leaves of very large size, from the axils of which, as well as from the axils of the fallen leaves, spring a profusion of long racemes, which are drooping, and covered with bright orange-colored flowers, each flower an inch or more in diameter. These make a showy appearance on the bare stem, surmounted by leaves two to three feet long. It is a native of New Grenada, from whence seeds were sent by Mr. Purdie, from which fine specimens have been raised at Kew. It is one of the finest acquisitions to the stove, and must find a place in every collection. (*Bot. Mag.*, June.)

SUBURBAN VISITS.

Pine Bank, the Residence of E. N. Perkins, Esq.—One of the most picturesque and beautiful residences around our city is that of Mr. Perkins, situated on the north bank of Jamaica Pond in Brookline. A recent visit here as well as one of a previous date, has given an opportunity to briefly describe it.

Pine Bank is so called from the fine old white pines which were found growing here when the place was first purchased by the grandfather of Mr. Perkins, more than fifty years ago. These fine old trees, now in the majesty of their growth,

were the only specimens in this neighborhood, and are still the only pines of large size around Jamaica Pond. The grounds comprise some twenty acres on a high steep bank which juts out into the pond, surrounded on three sides by water. From some of the rooms in Mr. Perkins's house it appears like an island. It is a delightful situation, and its natural beauties exceed any suburban residence in our neighborhood.

The house was rebuilt in 1848, upon the site of the old one, and is a beautiful example of the French chateau style, by Lemounier, assisted by the good taste of Mr. Perkins. It is square, without any outbuildings, and stands about five hundred feet from the bank of the pond, with a beautiful lawn occupying the intervening space. The entrance front opens on to a broad avenue, and overlooks one of the ravines or dimples which are peculiar to Pine Bank, and form one of its most interesting features. These dimples are four or five in number, in various parts of the pleasure grounds, and are from twenty to thirty feet deep, with a sudden descent on all sides, but always dry, and enriched with a fine growth of evergreens, forest trees, and ornamental shrubs.

The grounds have been but little altered since they were originally planted. So simple were the desires of these pioneers of ornamental gardening, that these old places really display more genuine good taste than most of the more modern specimens of landscape art, which fritter away all that is grand and picturesque in the attempt to do too much in a limited space. It is really a treat to enjoy the breadth of verdure and depth of shade which the open lawn and well-planted pleasure-grounds afford.

Pine Bank has some very remarkable specimens of trees. Two of the finest dogwoods we ever saw border one of the main avenues; they have a spread of more than twenty feet, and are in the perfection of growth and foliage: a fine fringe tree (Chronanthus virginicus) is upwards of thirty years old. There are also some beautiful Norway spruces. The white pines, which we have already alluded to, are 70 or 80 feet high; two or three of them on the border of the eastern

avenue were badly injured last winter by the ice, which snapped off the top of one, and broke the branches of the others. There are several huge hemlocks, standing directly on the steep bank of the pond, whose dark shadows are reflected in the clear water. Mr. Perkins has recently planted out a number of the more rare pines and other trees, and in a few years they will greatly add to the beauty of the place.

Our recent visit here by invitation of Mr. Perkins, was to see the operation of Swift's Lawn Grass machine, which was described in our volume of last year. It is an improvement upon the English patterns, which have been in use for some years, saving a vast deal of labor, and performing the work as well as the scythe, and better, unless in very skilful hands. The improvements, according to Mr. Swift, consist mainly in making the knives so adjustable, as to allow them to be ground and worn three fourths of an inch; and so altering the form and construction, that small stones will do no material injury where the English knife would be rendered useless.

Mr. Perkins's machine, which is one of the largest size, was put in operation on his beautiful lawn. The grass was very damp after a shower the preceding evening, and did not cut as well as when dryer; for, unlike ordinary cutting with the scythe, when the sward should be moist, the machine works better when dry, as it does not clog up so readily, and the grass is thrown into the gathering-box better. A pony harnessed in, and taking the handles, we took a turn round the lawn, cutting the grass as smooth as a carpet, and cleaning it up as neatly as if it had been swept. It works with the greatest ease, though a little practice enables one to manage it better, and cut with greater rapidity, especially where there are trees or shrubs. With care the grass may be cut within a few inches of any tree or plant.

This excellent machine will save a great amount of labor, besides doing the work in such a manner as it is almost impossible to have it done, except where there is a gardener who has long practised cutting with the scythe, and it requires no little skill to do it well. With such a machine as Mr.

Perkins's an acre may be cut in an hour! For amateurs, who have small lawns, one of the smaller machines that work by hand would answer every purpose, and working it would afford them the greatest pleasure. In truth, it approaches nearer to a toy than a labor-saving machine, doing the work of half a dozen men. We do not know of another of these large machines in our neighborhood, and we doubt not Mr. Perkins would be pleased to show its operation to any one who has the need of it, and would like to satisfy himself of its utility.

The knives may be so adjusted as to cut close or long; they are easily put in order, if by any accident they are broken, and the ordinary sharpening is effected simply by altering the gear so as to reverse the action of the knives or nippers: a few rapid turns backward puts them in the sharpest condition. The large machines cut a swath about three feet wide; the small or second size, about a foot wide.

We commend these machines of Mr. Swift's to all our suburban friends who have lawns of greater or less extent. The working of them is a recreation; and the smooth carpet-like surface which they leave is so much superior to the old plan, that when once in use it will never be given up; the lawn is not only cut but rolled at the same time; and frequent cutting and rolling is the only way to secure a thick and constant verdure. It has been tried by H. W. Sargent, Esq., of Fishkill, N. Y., a gentleman who is well able to pronounce upon the quality of its work and its labor-saving capacities; and he allows Mr. Swift to refer any person to him who doubts of its performing all the proprietor asserts.

Residence of Charles Copeland, Wyoming.—Spot Pond is well known as one of the most beautiful sheets of water in the vicinity of Boston. It is very elevated, being about 200 feet above the sea level, and its borders are covered with a dense growth of the finest forest trees, among which are some immense beeches. Part of the pond is in the new and pretty village of Wyoming, and it is upon the north bank of this pond that the residence of Mr. Copeland is located, occupying about five acres, with a farm about a mile distant, of

nearly one hundred acres. By invitation of the Garden Committee of the Massachusetts Horticultural Society we accompanied them on a visit to Wyoming, and spent a few hours in looking over the improvements which Mr. Copeland has made, and briefly notice them.

The grounds, three or four years ago, when Mr. Copeland took possession of the premises, were in a very rough condition. The site is a beautiful one. The ground rises from the main road towards the centre, and then slopes off rather rapidly down to the edge of the pond. It is upon the highest spot that Mr. Copeland's house stands, and the view from the house, on account of its elevation, is extensive, and takes in more than the three quarters of the pond and its adjacent banks. To the right some huge rocks jutting out of the water give it the appearance of our rugged sea coast; to the left the pretty villas of neighboring residents meet the eye; and on the opposite shore forests of sombre pines rear their spire-like heads, and reflect their dark shadows below.

Every part of the ground has been wholly remodelled, by filling up deep holes, and levelling down the protruding eminences. From the entrance gate a broad avenue, curving gently to the left, leads up to the house, and to the right another avenue of less width, branches off, leading to the flower-garden and greenhouse, with a gentle descent, in that direction. The greenhouse is about one hundred and fifty feet long, with projecting octagonal ends: one serving as the conservatory, the other as a camellia house, and the intervening house as a grapery and greenhouse. Just now there was nothing to see except the camellias, which Mr. Copeland's gardener keeps in the house all summer by shading the roof; but of this superb flower Mr. Copeland has one of the largest Double Whites in the country: all looked in good health and condition.

The flower garden and lawn were the attractive objects; for so short a period since planting, the latter was in fine verdure, well mown, soft, and thick. Beds of various form, cut out of the turf, were filled with verbenas, scarlet geraniums, &c., which presented a blaze of bloom. A walk sepa-

rates the flower garden from the lawn front; and in the centre of the garden is a small fountain, which throws a good jet twenty or thirty feet high, the water being supplied by a reservoir, into which it is pumped from the pond by a windmill, thus affording an abundance of this element, so essential wherever a fresh garden and deep green turf are wanted; all these are on the ground sloping towards the main road. Descending towards the pond on the other side the lawn occupies about half of the ground, and the fruit garden the other, with a marginal walk the whole length of the water; this walk follows the edge of the pond, and is cut through the natural growth of walnuts, oaks, beeches, &c., which grow in this locality. The fruit garden contains a fine lot of pears, principally standards, and is surrounded by a neat arborvitæ hedge, which shuts it out to some extent from view.

On the lawn are some very pretty trees, though yet small; among others we noticed the Cut-leaved beech, the Fountain willow, Weeping ash, Cut-leaved birch, &c. Three or four years' additional growth will change the aspect of the grounds. The day was one of the hottest of the season, and would have been almost unbearable in any other place; but the fine breeze from the water, and the deep shade of the overarching trees upon the margin, under which we could recline on the soft grass, enabled us to refresh ourselves after the morning walk over the garden and farm.

Mr. Copeland deserves much credit for the taste which he has shown in selecting the site for a residence, as well as the improvements he has made. The country in the immediate vicinity is beautifully wooded, affording pleasant drives; but the lovely pond, with its varied scenery, and the ever-cooling breeze which plays across it, render this one of the most desirable locations for a summer residence in our neighborhood.

Massachusetts Horticultural Society.

Saturday, August 2, 1856.—*Exhibited.* FLOWERS: From T. Page, J. Nugent, Galvin & Hogan, W. H. Spooner, Mrs. E. B. Grant, A. Bowditch & Son, F. Winship. P. Barnes, W. Underwood, E. S. Rand, Jr., and others, a variety of cut flowers, annuals, bouquets, &c.

Messrs. Breck & Son had a beautiful collection of phloxes and salpiglossis. Messrs. Hovey, 9 seedling Japan lilies, as follows:—Melpomene, Thalia, Clio, Terpsichore, Calliope, Polyphimnia, Euterpe, Erato, and Urania, some of them exquisitely beautiful; also, a fine collection of phloxes, tall larkspurs, &c. P. Barnes sent the new Double White petunia, which is a fine acquisition, resembling in its appearance the flower of the Gardenia. From E. S. Rand, the curious Tympananthes Superòsa, somewhat resembling a Stapèlia.

GRATUITIES AWARDED.

To P. Barnes, J. Breck & Son, F. Winship, E. S. Rand, Jr., and Galvin & Hogan, $2 each.

To W. J. Underwood, A. Bowditch & Son, T. Page, J. Nugent, Hovey & Co., and Mrs. E. B. Grant, $1 each.

FRUIT: From B. Harrington, pears and apples. From J. W. Foster, Early Harvest apples, fine, Cherry currants, fine gooseberries, and Improved blackberries. From J. B. Moore, fine Victoria currants, and Improved blackberries. From Geo. B. Cutter, Improved blackberries. Madeleine pears, from Evers & Bock, Breck & Son, and H. Vandine. From C. Minot, grapes in variety. From E. Wight, Improved blackberries. From Geo. Leland, apples in good preservation, of the growth of 1855. From F. Marsh, Sops of Wine apples. From G. Merriam, Extra Lawton, and fine Improved blackberries. From J. F. Allen, grapes and figs.

August 9.—*Exhibited.* FLOWERS: From Miss Russell, Mrs. R. W. Holman, F. Winship, J. Nugent, J. Breck & Son, E. A. Story, E. S. Rand, Jr., E. Stone and others.

Fine balsams, for premium, were exhibited by W. J. Underwood, W. J. Spooner, R. Murray, E. S. Rand, Jr., and T. Smallwood.

PREMIUMS AND GRATUITIES AWARDED.

BALSAMS.—For the best, to W. J. Underwood, $3.

For the second best, to J. Nugent, $2.

For the third best, to E. S. Rand, Jr., $1.

GRATUITIES.—To J. McTear (for Hedychium Gardneriànum,) W. J. Spooner (for balsams,) R. Murray (for balsams,) Miss Russell, Mrs. Holman, J. Nugent, E. Stone (for roses,) T. Smallwood, and Galvin & Hogan (for balsams,) $1 each.

To E. S. Rand, Jr. and F. Winship, for cut flowers, $2 each.

FRUIT: From J. W. Foster, gooseberries and Early Harvest apples, both

fine. From Geo. Nichols, Muscat of Alexandria and 3 other var. grapes. From J. F. Allen, grapes in variety. From F. Marsh, Sops of Wine apples. From J. Nugent, extra fine Improved blackberries. From G. Merriam, fine Lawton blackberries.

August 16.—*Exhibited.* FLOWERS: From F. Winship, E. Stone, Galvin & Hogan, Mrs. M. A. Bird, T. L. Capen, Mrs. Holman, E. A. Story, W. J. Underwood, T. Page, P. Barnes and others.

From Messrs. Breck & Son, a fine collection of phloxes, and extra fine balsams. From Hovey & Co. forty varieties of phloxes, many of them now exhibited for the first time; also, English heaths, from plants growing in the open ground, which stood out last winter. From C. F. Jones, four fine orchids, viz., Miltonia spectabilis, Cattleya Mossiæ, a Stanhopea and a Cymbidium.

AWARD OF PREMIUMS AND GRATUITIES.

PHLOXES.—For the best, to Hovey & Co., $5, for the following var. Gem, (Hovey's,) M. Rical, M. Hardy, Jaune Rouillard, Alba perfecta, M. Randatler, Laurent de St. Cyr, Speciosa, Madame de Vatry, and a new Striped seedling.

For the next best, to J. Breck & Son, $4, for the following:—Admiral de Leon, decòra, purpurea, Princess Marianne, Occulata, and Breck's Mrs. Webster, America, rubra, Queen of the Whites, and one new seedling.

For the third best, to J. Nugent, $3.

GRATUITIES.—To C. F. Jones, for orchids, $3.

To E. S. Rand, Jr., for Antirrhinums, $2.

To Galvin & Hogan, P. Barnes, and E. S. Rand, Jr., $1 each.

FRUIT: From Messrs. Burr, fine Red Astrachan apples. From Geo. L. Baxter, apricots. From J. Eustis, Early Harvest apples. From F. Marsh, Sops of Wine apples. From G. Davenport, Brinckle's Orange raspberries. From G. B. Cutter, Improved and common blackberries and fine Williams apples. From Richard Ward, a very handsome apple, without name, supposed to be new. From G. Merriam, fine Lawton blackberries. From J. F. Allen, grapes in variety. From E. S. Williams, Jersey prize melon. From C. S. Holbrook, melons. From J. Nugent, Improved blackberries. Evers & Bock, W. W. Wheildon, E. Stone, B. Harrington, and others, apples, pears, &c.

From Hovey & Co., 14 varieties of Summer pears, as follows:—Bloodgood, Osband's Summer, Supreme de Quimper, Salviati, Summer St. Germain, Passans du Portugal, Belle de Bruxelles, Tyson, Rostiezer, Windsor, Skinless, Beurrè Giffart, Duchesse de Berri, &c. From M. P. Wilder, Beurré Giffart, Doyenné d'Eté, Zoar Beauty, Bloodgood, and Supreme de Quimper, also, Red Astrachan apples. From H. Vandine, four varieties of plums, Beurré Giffart pears, and Early Bough and Sops of Wine apples.

Horticultural Operations

FOR SEPTEMBER.

FRUIT DEPARTMENT.

AUGUST has been an exceedingly wet month, about twelve inches of rain having fallen, being nearly one third of the average quantity of the year, or three months' rain in one. It was, however, greatly needed, and has thoroughly soaked the ground, which has not been well wet at this period of the summer for three years. August has also been very cool, with quite a heavy frost back in the country, cutting down the potatoes, &c. Probably September and October will be warm and dry.

GRAPE VINES in cold houses will now be ripening off their crop; keep the laterals shortened in, but not too close, and air the house freely, both day and night, in good weather. It is the only way to get a good color. Discontinue damping the house. The early houses are now nearly at rest, and require very little care. Vines in the open air should be pruned just enough to keep them in order; on no account remove the leaves and wood so as to expose the fruit to the sun.

STRAWBERRY BEDS may be planted all this month. Prepare the ground immediately. Old beds should be kept clear of weeds, and where the runners are too thick they should be cut away. Plants may now be potted for forcing.

FRUIT TREES IN POTS should be looked after; nip off the ends of all strong-growing shoots, in order to make compact bushy trees.

FRUIT TREES, budded last month, should be looked after; the late rains may start the buds, or swell the stocks so much that the ties may need loosening.

GATHERING FRUIT will now require much time where there are many trees; attend to it in season, and not allow the early autumn pears to hang too long on the trees.

FLOWER DEPARTMENT.

With the close of September come cool and often frosty nights, which nip some of the more tender plants; that this may not happen, the industrious gardener should begin to prepare in season, and not wait till the last moment. Have all the houses put in order immediately. Give a thorough cleaning, especially if there are mealy bugs, and have the pots washed preparatory to removing everything inside. Many plants should be taken in by the middle of the month, while others may remain out till frost comes. Prepare frames for the reception of small plants, where they flourish better than when crowded in among the larger ones. See that the plants are free from all insects before they are removed to the houses.

CAMELLIAS should be very freely watered now, as any neglect will cause the buds to drop. Syringe the plants every day in fine weather. Top dress such as need it.

CINERARIAS should now have attention. Pot off seedlings sown last month, and repot the young stock of choice varieties, placing all in a frame where they can be protected in damp or cool weather. Fumigate if the green fly appears.

Heaths, planted out in the ground, should be taken up and potted, shading them in a frame till well rooted.

Azaleas will require attention. Water more sparingly as the nights become cooler; and remove the plants to a more sunny aspect, in order to ripen the wood, on which an abundant bloom depends.

Chrysanthemums should be repotted for the last time. Water occasionally with manure water, or guano.

Pelargoniums, headed down last month, should be repotted. Young cuttings, struck last month, should be potted. Keep all in frames, where they can be protected from heavy rains.

Neapolitan Violets should be potted this month.

Monthly Carnations, in the open ground, should be taken up and potted this month.

Oxalises, of all kinds, may be potted this month.

Chinese Primroses, growing freely, may be repotted. Pot off young seedlings, and keep all in cold frames.

Roses, in pots, should be frequently stopped, in order to get well-ripened wood.

Cyclamens should be repotted.

Heliotropes, and other very tender plants, should be removed to frames as soon as possible, as their foliage gets discolored by the cool nights.

Euphorbias, &c., should be removed to the house forthwith.

Callas should be repotted this month.

Verbenas, Petunias, Salvias, &c., should be propagated for a spring stock.

Mignonette and Sweet Alyssum, in pots, should be placed in a frame, or old hotbed.

Verbenas, for winter blooming, should be potted for the last time this month.

Greenhouse Plants, of all kinds, should be tied up neatly, and put in order before removing to the house.

FLOWER GARDEN AND SHRUBBERY.

Let not the waning season cause any neglect in this department, but rather give it more care than ever, that everything may be as fresh as summer. Mow the lawn fortnightly, roll and rake the walks, clean the borders, and remove all unsightly plants whose flowering season is past.

Dahlias, now coming into bloom, should be tied up to the stakes, as a sudden wind might greatly injure them.

White Lilies may be planted or reset this month.

Hollyhocks may be propagated by cuttings. Seedlings raised early may be planted out in the beds or borders, where they are intended to bloom.

Pansies, sown in August, may be planted out in beds now. Divide, and reset choice varieties.

Carnations and Picotees should be planted out in beds, where they can be slightly protected during the winter.

Herbaceous Plants, of every kind, may be planted this month.

Beds for Tulips, and other bulbs, may be prepared now by trenching and manuring, that they may have time to settle before planting.

HINTS ON KEEPING AND RIPENING FRUIT.

No subject connected with fruit culture has, of late years, received more attention than the keeping and ripening of the various kinds, more particularly the pear. Years ago, when there were few varieties, in comparison with what we possess now, and when most of the winter sorts were only fit for cooking purposes, they were preserved with scarcely any trouble. But since this delicious fruit has been brought to such a high state of excellence through the active labors of the French and Belgian pomologists, it has been generally supposed that extra care must be taken to keep the choice kinds which they have produced to their period of maturity. Indeed, so much has this subject been discussed and so much has been written on the construction and management of fruit-rooms, that many cultivators have received the impression that so uncertain is the ripening of most of the winter varieties, they dare scarcely attempt their cultivation.

It cannot be denied that a great deal that has been written upon the subject of ripening pears is of no value whatever, and that their culture has rather been retarded than advanced by it. We confess to having too long been misled by the advice of those whom we thought had experience upon the subject, but which our own experiments have proved to be of little consequence. In fact, like many other departments of horticultural art, that of keeping fruit has been surrounded with so many difficulties, supposed impossible to overcome, that it has been, by general consent, admitted to be a process requiring great skill, long experience and large expense to ripen fruit in its highest perfection.

We do not intend to deny that some skill is necessary in the successful ripening of the pear. But we do deny that the methods usually laid down are the only correct ones, and that this fruit can be matured only by the routine of practice generally detailed. We mean to assert that the

whole process is made unnecessarily troublesome, laborious and expensive, without achieving any better results than can be attained by more simple means. Fruit-rooms, for instance, are almost indispensable to every extensive cultivator; the convenience of space for storing and for assorting rendering them of the utmost importance, particularly for the summer and autumn varieties. But that all who cultivate the winter pears must necessarily have a fruit-room to ripen them is the great error.

Nearly all the experiments which have been made in ripening pears have been on a small scale; that is, with a small quantity of fruit, and this divided into many sorts. It has been found that many of the varieties, stored away in ordinary places, have become worthless before the time of their maturity, either shrivelled up or decayed, and hence it has been inferred that our knowledge of ripening has been very imperfect. The ignorance has not been so much in the ripening as in the cultivation; and if the latter had been right, we should have less complaint of the former. A fruit half grown, must necessarily shrivel up, unless extra pains are taken to prevent it; but without inquiring first whether the cultivation was such as it should have been, we have endeavored to perfect by art what nature never intended we should,—that is, to ripen and mature a half grown fruit.

These views have been forced upon us after long experience in the preservation of a very great number of pears. Anxious to test the qualities of many of the most recent acquisitions, it has been our object to preserve them in the best condition. To do this it was important that we should have a fruit-room: we had one constructed, and though it materially aided us in our efforts, we still found it would not ripen many of our fruits. The conviction seemed about to be forced upon us that it would be almost impossible to mature some of them; and repeated trials did not change our opinion, until, in the course of time, the trees flourished and produced abundantly, so that where we formerly had a dozen pears of any particular sort, we now had a barrel, and, of all, many barrels: these could not be stored in an ordinary-sized

fruit-room, and we were obliged to secure them as we would apples, in barrels in the cellar. Regretting the necessity of doing this, and fearing we should lose much of our fruit, we from week to week examined the barrels, but found no shrivelling or decay. On the contrary, the specimens were greener, plumper, and fairer than ever; and we were somewhat surprised at this, after the very particular directions laid down in books, that *all pears should be placed on a shelf on the bottom end, so as not to touch each other*, and we began to think our cellar must be unusually cool to preserve them in such fine order. Winter was well advanced and yet the pears were firm and sound, with but little change in color, and it was not till Christmas that our Duchesses, Beurré Diels, &c., began to change color and show signs of maturity, and during all January we had an abundance of Lawrence, Winter Nelis, Lewis, Beurré Langelier, &c. &c.

This led us to some reflection on the natural qualities of fruit, and their capacity of retaining their juices unchanged for a length of time, and to ask the question why a winter pear should not keep as well as a winter apple. Further inquiry led us to the conclusion that fruit in small quantities, placed away in a box, or laid out on a shelf, must be exposed to greater or less currents of air, and their juices exhausted to some degree; while large quantities laid together prevented this exhaustion. We know that it is on this principle that the old orchardists act in preserving their apples; that they keep longer and fresher when stored in bins of fifty bushels, than in single barrels. And why should not the same rule hold good with the pear? Will any one deny that it will not? If not, we should be glad to know the reason. It may be said the pear is more likely to shrivel, as experience confirms it; but, from the reason we have before named, this will not apply—as those shrivelled specimens, the Easter Beurré for example, were half grown. The Lawrence, it is said, may be preserved sound and fresh as easily as the Russet apple,—and if the Lawrence, why not other kinds? If there is a reason it is this, that the Lawrence, a native pear, is suited to our climate, and attains its full growth, when we

know that the Easter Beurré, Chaumontelle, and some other sorts of foreign origin which require a warm soil and long season, do not; hence the difficulty of keeping them. In the Island of Jersey, the Chaumontelle grows to the immense weight of *thirty* or *forty ounces*, and is sent to the London market in January and February in the highest state of perfection; but, with the best culture we can give it, we think we may say a twelve or fifteen ounce specimen is extremely rare. Still, these small Chaumontelles and Easter Beurrés, if kept in barrels, will all mature as fresh and plump as when gathered; while, if the attempt is made to ripen them on open shelves, they will as assuredly shrivel up.

One case in proof of our views we give. Last winter an amateur cultivator placed before us some superb Glout Morceaus, about the first of March. We were surprised at their beauty; they were as yellow as a lemon, and retained all the freshness of juice and exquisite flavor for which they are so celebrated. We inquired what was the secret of his success. Risking a laugh at our expense, he claimed he had a new process, which he thought as valuable and skilful as other methods which had been made a monstrous secret of. However, not wishing to make anything of his art, he stated that he had one tree which produced about half a bushel of pears. Having no good place to preserve them, according to the old system, without making a fruit-room, which he did not wish to do for half a bushel of fruit, he devised the following plan. He took a good clean barrel and put into it one bushel of Russet apples; then added the Glout Morceau pears, and filled up the barrel with more Russet apples, and then rolled it into the cellar with the rest of his fruit. About the middle of February he opened the barrel and the pears were still green; thinking it time for them to mature, he placed them in a warm room, and in the course of ten days they were just in a fit state to be eaten.

This appeared to us a complete illustration of the theory we had thought the true one for the preservation of our winter pears, viz., that there is a natural moisture in bodies of fruit which enables them to maintain their freshness to their period

of maturity, which no artificial process can retain. A peck of apples kept in a box or upon a shelf in a fruit-room, would lose their flavor almost as readily as the pear; this we have proved in our attempt to keep a small quantity of some late sorts. In fact, there is no difference in regard to the mode of keeping the two fruits.

The whole secret, then, of keeping the pear is to preserve them in barrels; if the quantities are small, let them be put together, with the simple separation of a double sheet of clean thick brown paper. If the selection of sorts which ripen at the same time is judiciously made, they may all be taken out at once, ripened up in a slightly higher temperature, and produced in all their beauty and excellence. Whoever has hesitated about growing the winter pears on account of the difficulty of ripening, may dispel their fears, if they will try the simple method we have detailed to keep them.

THE LITERATURE OF GARDENING.

BY WILSON FLAGG.

No. VIII. Mason's English Garden.

The "English Garden," a poem by the Rev. William Mason, published in 1772, is a work which has been greatly admired, and extolled beyond its merits as a poem, by many who were pleased with its precepts as a treatise on the art of ornamental gardening. It is a didactic poem, in blank verse, and a professed imitation of the Georgics of Virgil. Its object is to apply the "rules of imitative art to real nature, and by proper selections and agreeable combinations in the relative position of hedges, buildings, trees and water; by an accurate arrangement of lands, in reference to hills, valleys and plains, to produce beautiful and picturesque scenery; an art but little known in Greece and Rome, and in which the English have surpassed all modern nations." As a more appropriate title for the work, that of *English Landscape*

might have been used by the author, who treats of general scenery, and says but little of *Gardening* in its true sense.

In the author's own words, "the first book contains the general principles of the art, which are shown to be no other than those which constitute beauty in the sister art of landscape painting; beauty which results from a well chosen variety of curves, in contradistinction to that of architecture, which arises from a judicious symmetry of right lines, and which is here shown to have afforded the principle on which that formal disposition of garden ground, which our ancestors borrowed from the French and Dutch, proceeded; a principle never adopted by nature herself, and, therefore, constantly to be avoided by those whose business it is to embellish nature." He condemns, therefore, the dull uniformity of vistas, and the puerile conceits of the Chinese and Dutch gardens, and sets up nature as a model in all attempts to improve upon her beauties, repeating Pope's precept,

"Consult the genius of the place in all"

With regard to what he has written against the creation of vistas and avenues, the author remarks in a note that he is far from denying that they have in themselves a considerable share of intrinsic beauty. He only asserts that their beauty is not picturesque, and that, therefore, it is to be rejected by those who follow picturesque principles. It accords only with architectural works. Where the artist proceeds on architectural principles, vistas are admissible. Hence the French, who follow these rules, have in their Dictionary of Sciences an article on the "Architecture of Gardening." He thinks, however, that when we consider that neither Poussin nor Claude ever copied this kind of beauties on their canvas, we should allow that these two principles oppose one another, and that whenever they appear together, they offend the eye of the beholder. If, therefore, vistas are ever to be admitted or retained, it is only where they form an approach to some superb mansion, so situated that the principal prospect and ground allotted to picturesque improvement lie on the other side, and so that the two different modes of planting can never appear together from any given point of view.

The author's general views are well expressed in the following verses from the first book of his poem:—

"Great nature scorns control; she will not bear
One beauty foreign to the spot or soil
She gives thee to adorn: 'tis thine alone
To mend, not change her features. Does her hand
Stretch forth a level lawn? Ah, hope not then
To lift the mountain there. Do mountains frown
Around? Ah, wish not there the level lawn.
Yet she permits thy art, discreetly used,
To smooth or scoop the rugged or the plain.
But dare with caution. Else expect, bold man,
The injured genius of the place to rise,
In self-defence, and, like some giant fiend,
That frowns in Gothic story, swift destroy,
By night, the puny labors of thy day."

If it be asked what he must do "whom niggard fate has fixed in such an inauspicious spot as bears no trace of beauty," the author replies, that a spot cannot be found so inauspicious or so destitute of charms as not to admit of improvements that would satisfy the most sanguine hopes.

"The seeds of grace are sown, profusely sown,
Even where we least may hope; the desert hills
Will hear the call of art; the valleys dank
Obey her just behests, and smile with charms
Congenial to the soil, and all its own."—[Book I.

Like almost all other English authors on rural ornaments, except Repton, our author lays too much stress on the importance of studying the works of the great painters. Repton, who certainly viewed these subjects with less prejudice than his predecessors, while he admitted that the great masters were worthy of study, believed that their example often led to whimsical and impracticable attempts to carry out their ideas in the creation or improvement of real landscapes. Many of our author's remarks, however, are judicious and happy:—

"If then thou still art dubious how to treat
Nature's neglected features, turn thine eye
To those, the masters of correct design,
Who, from her vast variety, have culled

The loveliest, boldest parts, and new arranged:
Yet as herself approved, herself inspired.
In their immortal works, thou ne'er shalt find
Dull uniformity, contrivance quaint,
Or labored littleness; but contrasts broad
And careless lines, whose undulating form
Plays through the varied canvas. These transplant
Again on nature: take thy plastic spade,
It is thy pencil: take thy seeds, thy plants,
They are thy colors; and by these repay
With interest every charm she lent thy art."—[Book I.

Mr. Mason calls Bacon the prophet and Milton the herald of true taste in gardening. The former, because, in developing the constituent properties of a princely garden, he had largely expatiated upon that admired natural wildness which we now deem the essence of the art. The latter, on account of his having made this natural wildness the leading idea in his exquisite description of paradise. Addison, Pope and Kent he calls the champions of this true taste, because they brought it into execution. He further remarks in a note that Mr. Southcote was the introducer, or rather the inventor of the *Ferme orne*, of which the poet Shenstone exhibited, in his Leasowes, such a noble example.

The second book of the "English Garden" proceeds to a practical discussion of the subject, confining itself to the disposition of the ground plan, and the proper formation and arrangement of the paths and fences. The necessity of attending constantly to the curvilinear principle is first shown, not only in the formation of the ground plan, with respect to its external boundary, but in its internal swellings and sinkings, where all abruptness or angular appearances are as much to be avoided as in the form of the outline that surrounds the whole.

——— "in this, in all,
Be free, be various, as in nature's self.
For in her wildness there is oft an art,
Or seeming art, which, by position apt,
Arranges shapes unequal, so to save
That correspondent poise, which, unpreserved,
Would mock our gaze with airy vacancy.
Yet fair Variety, with all her powers,
Assists the balance; 'gainst the barren crag

She lifts the pastured slope; to distant hills
Opposes neighboring shades; and central oft
Relieves the flatness of the lawn, or lake,
With studded tuft, or island. So to poise
Her objects mimic Art may oft attain.
She rules the foreground; she can swell or sink
Its surface; here her leafy screen oppose,
And there withdraw: here part the varying greens,
And crowd them there in one promiscuous gloom,
As best befits the genius of the scene."—[Book II.

The walks and avenues form the next topic of discussion, and the author recommends that peculiar curve, which by some has been called the "line of beauty." It is that curve which is generally found in natural field-paths, or rather such as have been made without design by the tread of animals and of human feet. This, in the author's words, "being casually produced, appears to be the general curve of nature." It is more properly the course, we would add, which is most available to animals and human beings in their efforts, when passing over ground, to gain a certain point. Hence it is nearly straight when passing over an unobstructed level; full of zigzags in passing over a level covered with tufts or boulders, and becomes a neat and pleasing curve only when the ground has a gently undulating surface, or numerous rounded eminences.

The rest of the book is employed in minutely describing the method of making sunk fences, and other necessary divisions of the pleasure ground or lawn from the adjacent field or park. These matters are rather too dry for poetic description, and too common place, in the present age of the world, to be worthy of being extracted. The book concludes with an episode, from which we quote the following lines in praise of retirement:—

"Ah who, when such life's momentary dream,
Would mix in hireling senates, strenuous there
To crush the venal hydra, whose fell crests
Rise with recruited venom from the wound!
Who, for so vain a conflict, would forego
Thy sylvan haunts, celestial solitude!
Where self-improvement, crowned with self-content,

Await to bless thy votary. Nurtured thus
In tranquil groves, listening to nature's voice,
The wise Sidonian* lived; a garden's care
His only thought, its charms his only pride."

The third book commences with a poetical tribute to the memory of the poet Gray, the intimate friend of the author, and one who, it seems, was disposed to condemn the art of landscape gardening as mere caprice. He is represented as saying to the author,

"Why waste thy numbers on a trivial art
That ill can mimic even the humblest charms
Of all-majestic nature!"

Mason agreed with his friend in his love of nature, but was not guided by his judgment with respect to the art of improving her charms.

This book proceeds in pointing out the method of adding natural ornament to the ground plan by means of wood and water. "Somebody (remarks the author) has said, rather quaintly, yet certainly not without good meaning, that 'water is the eye and wood the eye-brow of nature,' and if so, there is surely no impropriety in treating the two features together. Certain it is that when united they contribute more than any thing else to what may be called scenical expression, without which the picturesque beauty we treat of loses much of its value." He treats the arrangement of wood under two heads, that of planting it with a view of concealing defects, and introducing beauty into their place, and for the purpose of ornamenting the more open lawns. The former admits of precise rules, but the latter depends chiefly on the eye of the planter, who must necessarily vary his mode of planting as peculiar situations vary. When the only thing needful is to avoid formality, explicit rules rather tend to mislead than to direct. The author's general ideas on the planting of wood are well expressed in the following verses from the first book:

"Does then the song forbid the planter's hand
To clothe the distant hills, and veil with woods
Their barren summits? No: but it forbids
All poverty of clothing. Rich the robe,

* Abdalonymus.

And amply let it flow, that nature wears
On her throned eminence: where'er she takes
Her horizontal march, pursue her step
With sweeping train of forest, hill to hill
Unite with prodigality of shade.
There plant thy elm, thy chestnut; nourish there
Those sapling oaks, which, at Britannia's call,
May heave their trunks mature into the main,
And float, the bulwarks of her liberty.
But if the fir, give it its station meet;
Place it an outguard to th' assailing north,
To shield the infant scions, till, possessed
Of native strength, they learn alike to scorn
The blast and their protectors."

We shall not enter into the details of the author, concerning artificial water, believing that the proper course to be pursued by our people is to preserve their natural streams from drying up, by not allowing the mountains and mountainous elevations to be deprived of their wood.

The fourth and last book treats of buildings and all artificial ornaments. By these is meant not only every aid which art borrows from architecture, but those smaller pieces of separate scenery appropriated either to ornament or use, which do not make a necessary part of the whole; and which, if admitted into it, would frequently occasion a littleness ill suiting with that unity and simplicity which should ever be principally regarded in an extensive pleasure ground. The author remarks in a note that "all adventitious ornaments of sculpture ought either to be accompanied with a proper background, or introduced as a part of architectural scenery; and that when, on the contrary, they are placed in open lawns or parterres, according to the old mode, they become mere scarecrows."

CHEAP HOUSES FOR GROWING PEACHES AND VINES.

BY J. DE JONGHE, BRUSSELS.

The cultivation of fruit trees in pots is yearly attracting more attention, especially the peach and nectarine, which in our variable climate so often fail to produce a crop in the

open air. In England, the introduction of orchard-houses, as they are called, for the growth of the same fruits, is becoming very general; even the pear, cherry, plum, &c., are cultivated in this way, so sure is the crop and so excellent the quality.

In the early volumes of our Magazine, nearly twenty years ago, we published several articles on the growth of the peach and grape in pots, and recommended this mode of cultivation to all who were desirous of securing an annual crop in our climate. But the expense of constructing houses suitable for their growth, has been so great that few have attempted the experiment to any extent.

As, yearly, the fate of our peach crop seems more uncertain, their cultivation under glass must be resorted to by all who are desirous of raising this delicious fruit. It is especially desirable, therefore, that some cheap method of constructing houses should be introduced in order to further this object. The orchard-houses of Mr. Rivers have been commended as the cheapest structures for this purpose; but a recent article in the *Gardeners' Chronicle*, by M. de Jonghe of Brussels, details a plan which is more simple, and at the same time more economical, than that of Mr. Rivers. For the information of all who would grow the peach, the apricot, the nectarine, or any other fruit in this way, we copy it, with the engravings (FIGS. 24, 25) illustrating the mode of construction, and details of expense.—ED.

All cultivators of fruit trees know that the peach, apricot, and vine are natives of much warmer climates than those of England and Belgium. We have not yet succeeded in obtaining in our latitudes, by means of seed, varieties hardy enough to bear, in the open ground, fruits as delicious as those obtained with due precautions from a wall with a good aspect.

When we examine the gardens of the ancient religious establishments of the country, we find there are still many vestiges to attract the attention of the observer. These gardens are divided into several compartments by walls of 7, 8, 10, or 15 feet high, furnished with copings which project

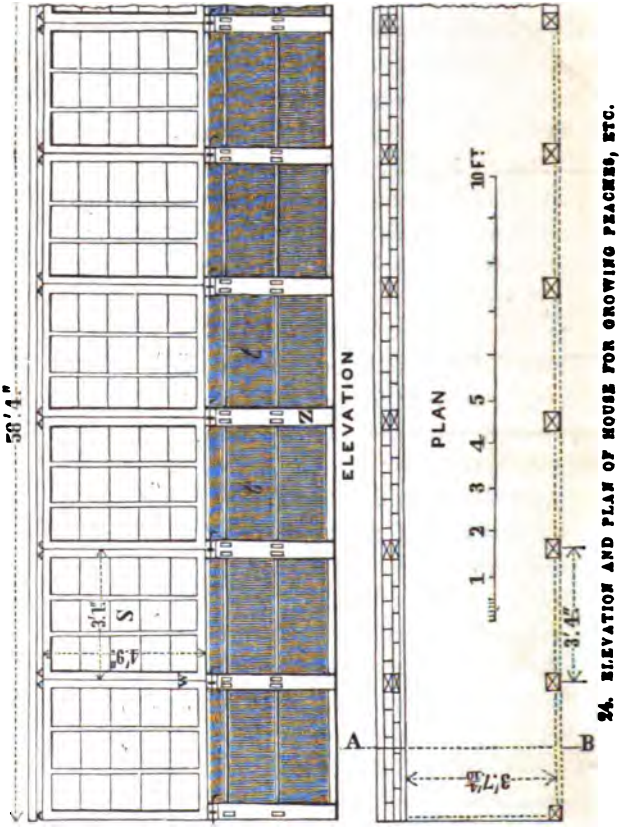
from 12 to 18 inches, according to the height of the wall, and at the bottom of these walls are raised sloping borders, 6 to 8 feet wide. For the best aspect, facing the southeast, south, or southwest, the protection of a still higher wall is afforded. It was on these, according to the testimony of the old friars, that fruit trees which would not succeed elsewhere in gardens were cultivated. The riches of these institutions permitted the erection of these costly but durable and useful structures. At the present day all these precautions are not taken, even in the gardens of the wealthy; yet the injuries to fruit trees in spring, and consequent losses of crops, are such that it is high time to adopt remedial means. Recourse is had to copings, which shelter the blossoms from snow and late frosts. Some employ mats of rushes, straw, or Russia mats. Others again have moveable glass structures, which appear to me to be preferable to all other modes of protection. By means of these we have seen produced peaches, apricots, and grapes, perfectly formed, and of a delicacy and flavor beyond which nothing could be desired. We have seen one of these structures in the garden of Mr. Charles Van der Straeten, at Texelles lèz Bruxelles. This garden is situated on the highest part of the environs of the city. The ground is cold and stiff during winter, but the layer of vegetable soil is very deep.

The moveable structure represented in the foregoing plan is placed against a wall, facing the southwest, composed of tiles nine inches square. All details respecting the wall and moveable structure are given in the explanation to the plans; some remarks as to the fruit trees, and the period when the structure is put up, may however be given.

The wall being constructed of tiles, and the joints being perfectly filled up with plaster, no refuge is afforded on its surface for insects. This is a circumstance worthy of note. Against the wall is placed a trellis work of round rods attached to the uprights of the oak framework at the distance where the reflection of heat is greatest. This is another point to be noted.

After the vines have been three years planted and trained

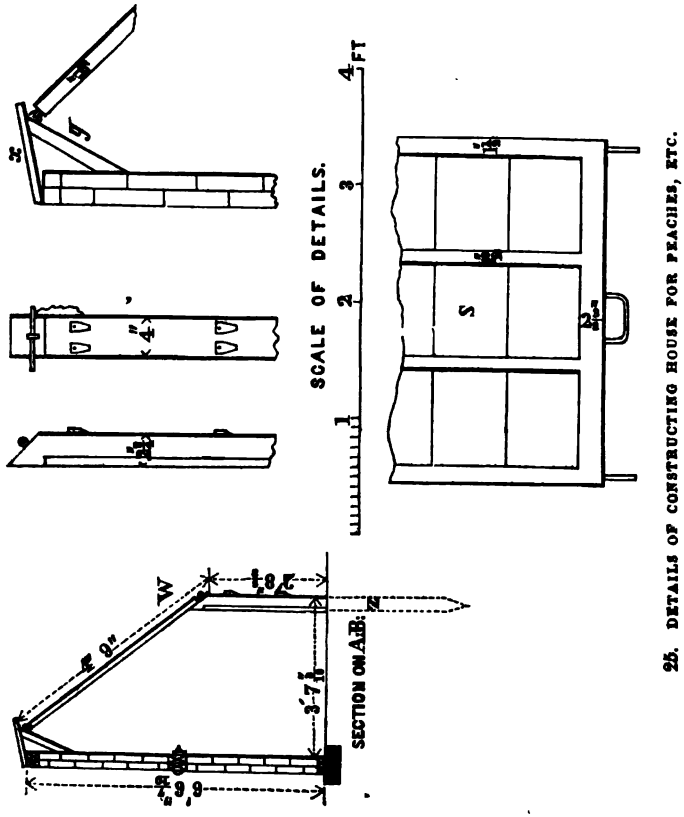
horizontally, (for by that mode they occupy least space), they are pruned at the fall of the leaf in November and properly cleaned. With regard to the peach and apricot trees, they are not pruned but merely cleaned, and the branches trained and nailed in their natural direction from the centre of the



tree. Towards the end of February the moveable structure is placed against the wall.

As soon as the fruit is set, and in a fine day in April or May, the moveable structure is taken off from the peaches and apricots, in order to perform the operations of disbudding, pinching, and the removal of old exhausted branchlets. The fruits are thinned at the same time by cutting them through the middle, and the leading shoots are nailed in. If insects

appear they are killed by sprinkling with tobacco water, which no insect can withstand; afterwards the trees are syringed with clean water. The wall is left uncovered for a day or two if the weather is favorable; but if not, these operations are performed without taking down the structure. It



25. DETAILS OF CONSTRUCTING HOUSE FOR PEACHES, ETC.

remains up till the peaches and apricots have nearly arrived at maturity, which is about three weeks or a month before ripe fruits can be obtained from unprotected walls. The period of ripening depends, of course, upon the season being more or less favorable. The sashes, when taken off, are laid aside till the following spring, whilst the trees, exposed to the influences of the atmosphere, regain their vegetation and productive vigor for the following year.

M. Van der Straeten adds the following explanation of the figures:—

The frame shown in the drawing was placed against a wall of a new construction, and which has existed for more than 25 years. The wall is formed of a framework of oak, forming squares, in which are set on edge two courses thick of blue paving tiles, 9 inches square, so as to break joint. This wall is 6½ feet high, and is covered by a board, *x*, which serves for a coping, and is supported from sash to sash by pieces of wood, *y*. In the coping boards are fixed hooks which hook into two eyes on each sash. The sashes rest upon oak posts, *z*, fixed in the ground to the depth of 3 feet 3 inches. Each post supports the ends of two sashes, which rest partly on the one and partly on the other, as at *w*. The sashes *S* are made of pine, and are framed and glazed in the ordinary way. The intervals between the posts are closed up in severe frosts by straw mats, *t*, *t*, *t*, which can be removed at pleasure. They are kept from blowing in or out by being tied to laths nailed to the posts.

This is so easily moved that the whole of it, though 58 feet 4 inches in length, can be removed by two men in eight minutes, and again replaced in twelve minutes. When the moveable part of the structure has been taken down, there only remain the posts, the use of which no one would suspect. Besides effecting its principal object—the protection of fruit trees, such as the peach, apricot, and vine, &c.—the structure serves at the same time for the production of early vegetable crops, for which purpose a border 3½ feet wide is available.

The expense of the entire structure was at Brussels £7 0*s*. 9*d*., or about 2*s*. 5*d*. per foot run. It is composed of the following items:—

	£	*s*.	*d*.
Carpenter's wages, ...	1	2	11
Cost of wood, (oak and pine), . .	2	1	5
Smith's work, ...	0	9	5
Oil, white lead, and putty, . .	0	13	7
Straw, ...	0	2	4

	£	s.	d.
Glass, ...	2	5	6
Gratuity to the gardener, . . .	0	5	7
Total expense, ...	£7	0	9

The glazing, painting, and making the straw mats, having been done by the gardener at spare times in winter, are not taken into account.

POMOLOGICAL GOSSIP.

FINE PEARS AT THE LAST ANNUAL EXHIBITION OF THE MASS. HORT. SOC.—Another very favorable season, more so in some respects than the last, has enabled our cultivators to keep up the quality of their pears to that of 1855, a very good standard. Some kinds were fairer and larger than last year, while others were more spotted or smaller; but on the whole, the exhibition of this fruit surpassed that of last season. A little more warmth, with the same quantity of rain, would have swelled out the pears to an enormous size. The following are the names of the kinds in the two largest collections:—

From Hovey & Co., 30 varieties, 12 specimens each, viz.: Beurré Diel, B. Sterckman, B. Golden of Bilboa, B. d'Anjou, B. Clairgeau, Glout Morceau, Sheldon, Dix, St. Michael Archangel, Marie Louise, F. Beauty, St. Menin, Dunmore, Adams, Urbaniste, Swan's Orange, Doyenné Boussock, Le Curé, Gansell's Bergamot, Louise Bonne of Jersey, Bartlett, Lawrence, Pratt, Duchess of Orleans, Paradise of Autumn, Duchess, Triumph de Jodoigne, Doyenné Sterckman, and Belle Lucrative.

From M. P. Wilder, 30 varieties, 12 specimens each, viz.: Beurré Diel, B. Sterckman, B. d'Anjou, B. Clairgeau, Glout Morceau, Urbaniste, Swan's Orange, Doyenné Boussock, Le Curé, Louise Bonne of Jersey, Bartlett, Lawrence, Triumph de Jodoigne, Bonne des Zees, Belle Epine Dumas, Beurré

Kennes, B. Superfin, B. d'Amalis, Retour de Rome, Lodge, Nouveau Poiteau, Comtesse d'Alost, Abbott, Kirtland, Comte de Flandres, Counsellor Ranwez, Chas. Van Hooghten, Winter Nelis, Columbia, and Gros Colmar Van Mons.

New Grapes.—Several new hardy grapes have made their appearance this year for the first time, showing that we are soon to have a sufficient variety to give us fine fruit from the middle of August to the end of the season. We shall report upon them in another number. The Delaware grape was exhibited in very good condition, fully ripe at the same time as the Concord. The Concords, though ripe, were not quite so large as last year.

The Rebecca Grape.—Under this name a new grape was exhibited at the annual exhibition, which attracted much attention, and which promises to become a most valuable acquisition. It is a white grape about the size of the Diana, and with bunches about as large; in flavor fully equal to that superb grape. It is an accidental seedling, found in a garden in Hudson, N. Y., and has now been in bearing four or five years. It ripens at the same time as the Diana, and will undoubtedly mature throughout the New England states. We shall give a full account of it in a future number.

The Union Village Grape.—This is another new and very fine hardy grape from Ohio, where it is said to have been raised by the Shakers of Union Village. The bunches are as large as the Black Hamburgh, and the berries nearly double the size of the Isabella, round and black. It ripens before the Isabella, and promises to become a popular variety. These accessions to our hardy grapes will enable us to produce this fruit in abundance and perfection where heretofore we have only had the half ripened Catawbas and Isabellas.

The Fourth Session of the American Pomological Society was held at Rochester on the 24th September and continued three days. There was a large attendance of Western nurserymen and cultivators, and the session was one of much interest. The lateness of the month precludes us from giving any notice of its doings. The show of fruit was not so large as was expected, owing to the extreme cold of

last winter, which greatly injured all kinds of fruit trees in the West, and in many places killed them to the ground. The pear crop also suffered in Western New York from an unprecedented dry season, and the specimens were not near so fine as usual. Of peaches there were scarcely any. Eastern cultivators made good contributions of pears, but much of the interest of the meeting was lost from the failure of the apple crop, which prevented the magnificent display of this fruit which our Western nurserymen have been enabled to make. We shall review the proceedings of the Society as soon as the published report is received.

THE BUTTONWOOD.

BY WILSON FLAGG.

The Buttonwood, *(Platanus occidentalis)*, or Western plane, sometimes improperly called the Sycamore, is a well known tree in all parts of the United States. The Oriental plane, a kindred species that closely resembles it, was a favorite shade tree among the ancient Romans, and many of the largest trees on record were of this species. It was originally brought from the east, and probably to this circumstance owes a great part of its celebrity. In the days of the Roman empire, as this tree was then "dear bought and far fetched," fashion seems to have stamped it with an extrinsic value, and the praises dealt out in its favor have been since quoted as its real deserts, without particular examination. Like the American plane, its timber is of an inferior quality, and it must have been prized for its large dimensions, rather than for any superior beauty of form or foliage; for unless the Oriental plane exceeds the American species in many important respects, it is remarkable chiefly for its superior size.

When these noble trees, which were so conspicuous twenty years ago in our landscape, began to perish from some unknown and mysterious cause, all the lovers of nature were

affected with profound regret. But had the elm, the ash, or the oak, instead of the buttonwood, been similarly affected, we should have regarded it as a still greater public calamity. The buttonwood is only a second-rate tree, having an inelegant foliage, a scattered ramification, and a coarse spray, hardly affording shelter to the birds that seldom build their nests in its unaccommodating branches. We may account for the frequency of the buttonwoods, at the period preceding their decay, by supposing that the inferior value of their timber lessened the temptation of avarice to destroy them; while the more beautiful and valuable oaks, maples and ash trees were cut down to be used for fuel and in the arts. While, therefore, we look upon the fatality that has attended them with regret, we may be consoled by the reflection that it may be an inducement with the present generation to plant a superior tree in their place, for the benefit of posterity.

The buttonwood belongs to a genus in which there are only three known species, and these constitute a whole family. This tree is remarkable for its lofty height and superior size, for its large palmate leaves, and its globular fruit, and inflorescence. I think they err, however, who attribute to it any extraordinary density of foliage, which seems to me to be rather sparse, in comparison with that of many other indigenous trees. The leaves are not numerous, and their large size is only sufficient to render the whole mass of medium density. In the South, where it still flourishes in its pristine health and vigor, I took pains, a few years since, to compare it with other shade trees in that region, and must confess that it seemed to me to be surpassed in this respect by the greater number. Still it may be admitted, in the language of Emerson, that "the plane is the largest, grandest and loftiest deciduous tree in America. It has a magnificent columnar trunk. For a short distance from the ground, it diminishes with a rapid but regular curve, which gives it a base of vast stability: thence, with a scarcely perceptible taper, a shaft rises high in the air, bearing its light green top aloft, above the summit of the other trees of the forest."

The foliage of the buttonwood is of a very light green—

lighter than that of almost any other tree in our landscape. It bears a near resemblance to that of the common grape vine, both in size and hue. Near the insertion of every leaf, commonly a little above it, is a stipule, forming a plaited ruff that encircles the growing branch. These little ruff-like appendages add a characteristic singularity to the foliage of the buttonwood, and often present a showy and not inelegant appearance. Unfortunately, this tree exhibits no beautiful tints in the autumn. At first, the leaves fade to a lighter green, and gradually become spotted with a rusty brown, before they fall to the ground. A striking effect is produced by the smooth and whitish appearance of the trunk and large branches of the buttonwood, occasioned by shedding the bark of the preceding year's growth. Its bark is thus kept entirely clear of mosses and lichens, and exhibits a variety of hues, from a light yellow and a greenish olive to a nearly pure white.

"The buttonwood (says Michaux) astonishes the eye by the size of its trunk and the amplitude of its head; but the white elm has a more majestic appearance, which is owing to its great elevation, to the disposition of its principal limbs, and to the extreme elegance of its summit." With all its magnitude it has not the sturdy and majestic character of the oak or the chestnut, and the principal emotion excited by a view of it, is astonishment at its size. Superior size is a valuable property in a tree, but some of the most beautiful trees in the world are moderate in their height and dimensions. Probably the rapid growth of the buttonwood is one circumstance that induced our ancestors to cultivate it as a shade tree. It may likewise be said in its favor, that its shaft is very beautiful, and rises to a great height before it sends out its branches. On this account it is preferable to most other trees for our road-sides, as it does not, by its lower branches, interfere with passing objects; and in our enclosures, like the elm it lifts its head above the roofs of the houses.

It may be remarked, in connection with the fatality that has attended the buttonwoods in this part of the country,

that the same species was affected in a similar manner in Great Britain about thirty years before the malady was first observed in New England, in 1842. In this country the young shoots were blighted before the leaves were fully expanded, and perished as if they had been nipped by the frost. Every year since that time, they have been similarly blighted, unless we except the two or three last years. The trees that were not killed seem now to be slowly recovering their vigor. Several theories have been advanced to explain the cause of this malady. The only one that seems plausible is that the tree occasionally puts out its shoots so early in the spring as to expose them to be nipped by the vernal frosts. One fact that favors this supposition is that the buttonwoods south of the latitude of Philadelphia have entirely escaped this infliction. On this ground, however, it is hard to explain why, with the same habit and in the same climate, the trees were never before affected in this manner.

The whole difficulty may be overcome if we admit the following explanation. Suppose the young shoots to have put forth prematurely, on account of some accidental influence of climate, in the spring of 1842, when the malady was first observed. A severe frost, occurring soon afterwards, may be supposed to have entirely killed the new growth throughout the country. The trees immediately, as was the fact, formed a new crop of buds as in the autumn. But the new shoots coming from these were put out so late in the season that they had not sufficient time to mature and harden their wood before the arrival of winter. These immatured branches were therefore universally winter-killed, as the first shoots were spring-killed. Hence all the trees, on the next spring, were inevitably reduced to the same necessity of waiting for the development of a new crop of buds before they could put forth their new leaves and shoots. The latter not having time to harden their wood, were, in their turn, winter-killed; and this two-fold accident must have been repeated annually until 1854, filling the tree with tufts of slender and decayed branches. The summer of 1854 was remarkable for its drought, and for the duration of warm

weather in the autumn. The branches of this year could not fail, therefore, to become matured, how late soever they might have been produced, the greater length and the greater dryness of the season contributing equally to this result. The new wood was not killed on the succeeding winter, and since that time the trees have been slowly recovering, because they have matured their buds in the autumn, and the new spring growth has come out in proper time.

FLORICULTURAL AND BOTANICAL NOTICES.

330. Rhododendron falconeri *Hook.* Dr. Falconer's Rhododendron. (Ericaceæ.) Himalaya.

A greenhouse shrub; growing six feet high; with white flowers; appearing in spring; increased by layers; grown in heath soil. Bot. Mag. 1856, pl. 4926.

The rhododendrons of the East are now so numerous that it is almost impossible to keep up with the rapid introduction of new kinds. Every year brings forth new species or varieties which have flowered from the seeds sent home by Dr. Hooker, Mr. Booth, Mr. Low and Mr. Lobb, who have severally travelled the Himalayas, Bootan, Java and Borneo. These are all remarkable rhododendrons, some of them especially so, being of great stature, producing immense clusters of flowers, of hitherto unknown colors in this family, and several of them epiphytal in their habits.

It is to be regretted that none of them have yet proved hardy enough to warrant a trial in the open air in our climate north of Washington. South of that they will grow freely, and if introduced will form magnificent additions to every southern garden. Our native species sink into insignificance compared with some of these Asiatic plants. Without attempting to give detailed descriptions of such as have been beautifully depicted in the Botanical Magazine, we shall briefly notice each.

R. Falconeri has flowered this season for the first time in Europe; the plant was grown in an open frame at Bagshot,

without glass, only covered at night with a mat. Independent of its flowers, it is a striking plant, from the size and beauty of the foliage, which its discoverer compares to those of the rusty-leaved variety of Magnòlia grandiflòra; but the green is of a much deeper hue. It grows at an elevation of 10,000 feet. The heads of blossoms are very large, and the individual flowers are large, white, with a dark spot at the base of the corolla. It is a sûperb shrub. (*Bot. Mag.*, July.)

331. RHODODENDRON HOOKE'RI *Nutt.* DR. HOOKER'S RHODODENDRON. Bootan.

This is one of the acquisitions of Mr. Booth in his researches in Bootan, who introduced it into the collection of Nuttall, at Nuttgrove, Ranhill, where it flowered in April last. It is really a handsome and brilliant species, forming "entire thickets upon the Oola Mountains, accompanied by *P*inus excélsa, at 8 to 9,000 feet above the sea level; the frost and snow at that time, the 20th December, being very severe and continuous. It grows 10 to 14 feet high. Leaves of moderate size; heads of bloom small; flowers only medium size, but of a deep crimson scarlet. As the *P*inus excélsa is quite hardy, it is hoped this brilliant rhododendron may prove so. (*Bot. Mag.*, July.)

332. RHODODENDRON CAMPANULA'TA VAR. WALLICHII *Hook.* BELL-FLOWERED RHODODENDRON. DR. WALLICH'S variety.

From the interior of Sikkim Himalaya, and named *R.* Wallich*ii*. It, however, proves to be a variety of campanulatum, with large blush flowers, and very beautiful. (*Bot. Mag.*, July.)

333. RHODODENDRON BLANDFORDÆFLO'RUM. *Hook.* BLANDFORDIA-FLOWERED RHODODENDRON. Eastern Nepal.

A remarkably distinct species, not uncommon at elevations of 10,000 to 12,000 feet on the Himalayan mountains of Eastern Nepal. It forms a rather tall, sparingly leafy, twiggy bush, with narrow foliage, but with ornamental flowers,

which are of an orange color on the outside, yellow within, tubular in form, drooping, and looking almost like the Blandfordia, from whence its name. It is a curious and handsome species. It grows about eight feet high. (*Bot. Mag.*, Aug.)

334. RHODODENDRON CAMELLIAFLO'RUM *Hook.* CAMELLIA-FLOWERED RHODODENDRON. East Nepal.

A still more singular species, with foliage of the size and general appearance of a Kalmia, and with small heads of bloom, which are one and a half inches across, of a very thick texture, pure white, with a rosy tinge. It is epiphytal in its native woods, growing on the limbs of lofty trees, whence its branches hang down, and were several feet long, but in looser forests, with more light and air, it was found on the ground and on rocks, at an elevation of 9 to 12,000 feet. It was detected in the pine forests of East Nepal and Sikkim. (*Bot. Mag.*, Aug.)

335. RHODODENDRON BROOKEA'NUM *Low.* SIR JAMES BROOKE'S RHODODENDRON. Borneo.

A magnificent deep yellow species, with very large heads of blossoms, and deep rich foliage. "I shall never forget," says Mr. Low, "the first discovery of this gorgeous plant; it was epiphytal, upon a tree, which was growing in the water of a creek. The head of flowers was very large, arranged loosely, of the richest golden yellow, resplendent in the sun; the habit was graceful, the leaves large. The roots are large and fleshy, not fibrous as those of the terrestial rhododendrons."

As this is from a warm climate, it will require the protection of the greenhouse, where its splendid yellow blossoms will be a most conspicuous ornament. (*Bot. Mag.*, Sept.)

336. RHODODENDRON EDGEWORTHII *Hook.* MR. EDGEWORTH'S RHODODENDRON. Sikkim Himalaya.

Another of the species found in the valleys of the warm ranges of the Sikkim Himalaya mountains, usually pendulous

from trees, sometimes from rocks, at an elevation of 7 to 9000 feet above the sea level. It is a superb plant, with immense white flowers, tinged with rose, about 5 inches in diameter. It is also remarkable from the rich ferruginous down, which cover the branches, the leaves beneath, the stipules, calyx, &c., and there is a bright play of light on the dark green foliage, occasioned by the prominence of the areoles of the very strong reticulations. It flourishes in a cool greenhouse and blossoms in May. (*Bot. Mag.*, Sept.)

SUBURBAN VISITS.

RESIDENCE OF T. W. WALKER, ESQ., WALTHAM.—It is a rich and rare treat, to one who appreciates fine trees and shrubs, to visit some of the old places in the vicinity of our city; rich, because time has enabled every tree to attain that size and beauty of form which we do not often see, unless by chance we visit some fertile woodland spot, where, standing isolated, they have had the opportunity to maintain their natural form and vigor of growth,—rare, because these old places are fast disappearing from our environs, by the natural rise in value of land, and the eagerness of speculators to buy up every old homestead for conversion into house lots. Few residences on the same liberal scale have recently been laid out, and such as there are show their youth by the size and growth of their ornamental plantations. It is only in these old established grounds, laid out, planted, and kept up at great expense by gentlemen of wealth and taste, that we are now enabled to enjoy the grandeur and beauty of trees in their mature age and vigor of growth.

The residence of Mr. Walker comprises all the large and beautiful estate formerly belonging to Gov. Gore, comprising some one hundred and forty acres, finely laid out and planted by him at the close of the last century. The house is one of the large, commodious, and comfortable old buildings which are as rare as places of similar age and extent. It is

on the old English plan, with the main building and two wings, showing a front of one hundred and fifty feet, one wing embracing the kitchen offices, and the other, a library, billiard room, &c. The entrance to the house is through a broad avenue, lined with gigantic pines and other trees; the building stands on a slight eminence, which slopes off on the lawn front to the main road, distant a thousand feet.

About thirty acres are laid out as pleasure grounds, flower garden, fruit garden, kitchen garden, &c. The residue of the land is used for farming purposes, and is all in the finest condition, under the care of Mr. R. Murray, who has been upon the place upwards of twenty years, during which period he has effected great improvements, remodelling the grounds, planting out nursery trees, and otherwise beautifying the place. Mr. Murray showed us immense hemlocks, which were planted by him several years ago; they were then large trees removed from the woods, but under his good management they succeeded well, and are now some of them fifty feet high, feathered to the ground on which the lower branches spread out.

It is only since April that Mr. Walker purchased this place, which, for upwards of twenty years, has been in the possession of J. S. Copley Greene, Esq. Latterly it has been somewhat neglected, Mr. Greene having been absent from home, and feeling very little interest in the place. He commenced with making many alterations and improvements, one of which was the construction of a pond, covering four or five acres; this was completed at great expense, but nothing was done to make it ornamental, and it still remains, after the great cost, as it was when finished, without any plantations of trees and shrubs, or even a margin of good turf. It may be made a very ornamental feature of the place.

A walk completely skirts the pleasure grounds, from which pretty views are obtained at various points, and terminates at the other entrance gate; the avenue sweeping by the house in a curve from the main road, which divides the farm from the house and ornamental grounds. The flower garden is neatly laid out, and contains a collection of American plants,

such as Rhododendrons, Azaleas, Vacciniums, &c. The walks are edged with Box. There is a pretty arbor in the centre, over which Virginia Creepers and other vines twine in the greatest luxuriance, forming a perfect canopy, through which the sun can scarcely penetrate. The walks radiate from this, that opposite the entrance leading to the forcing-houses, greenhouse, &c.; these are old structures of long standing, built in the lean-to style, with high back walls and steep roofs; they answer the purpose, however, of cultivation, and the grapes, &c., looked even better than we have seen them in more modern houses, showing that skill, after all, is what the gardener should possess. Mr. Walker intends to pull down these old houses and erect a new range, further back than they now stand, which will add a large piece of ground to the flower garden.

The American plants were the most interesting objects to us in the flower garden, as it is rare that we see such a collection. They were planted out just twenty years ago, by Mr. Murray, and pains were taken to properly prepare the ground, excavating the garden soil in part and filling it up with peat; the result is what might be expected, a most vigorous growth, some of the bushes being ten feet high, and, in their flowering season, one mass of splendid flowers. In the group we noticed Rhododendron maximum and catawbiense with their hybrids, Kalmia latifolia and augustifolia, Vacciniums three or four kinds, Magnolia glauca, Azaleas several sorts, &c.

Besides the flower garden, the predominating features of the place are the fine old trees bordering the avenue and adjacent to the lawn. These include fine beeches, elms, walnuts, oaks, &c., and Norway spruces, hemlocks, white pines, and arborvitæs. A group of hemlocks in front of the portico, with their branches sweeping the turf, is in itself a treat well worth seeing. We have already mentioned that part of these were removed at great expense, many miles, by Mr. Murray, in order to produce immediate effect. Two Dwarf horsechestnuts, (Pavia macrostachya), standing on the site of an old garden now laid down to grass, in the rear of

the stables, were the largest and finest of this showy species that we have ever seen. One of them measures fifty feet in circumference, and, at the time of our visit, was covered with hundreds of its spikes of bloom.

The farm has latterly occupied much attention, and Mr. Murray has devoted all his energies to its improvement. The quantity of hay cut is very large, filling an ample barn one hundred and ten feet long. Large quantities of carrots, ruta baga, &c., are raised to feed out to the stock. Early potatoes for market are also extensively planted, and this year were a fine crop. Everything was in the best condition, showing the deep interest taken by Mr. Murray in this department. Numerous rows of potatoes, corn, &c., were shown to the committee, planted with various manures, to show the real value of each. We have no space to go into a detail of them, only remarking that the guanoed rows, at the rate of 300 lbs. to the acre, were the most vigorous, and retained a deep green verdure.

An agreeable day was thus passed in inspecting the entire grounds, much to the satisfaction of all present, who do not often have the opportunity afforded them of visiting a place having so many pleasing features, the most prominent being its majestic growth of ornamental trees, which a life time will not allow us to possess. We congratulate Mr. Walker upon his fortunate possession of such a fine old residence.

Oakley Place, Mrs. Wm. Pratt.—On the route to Waltham, through Cambridge, the committee had made their arrangements to visit the beautiful grounds of Mrs. Pratt, in Watertown, opposite Mr. Cushing's, which we have so often noticed.

The lawn and pleasure grounds, the latter of which have been extended recently, were in the finest order; the garden, now under the care of Mr. Halley, clean and in the highest keeping, with a fine display of roses and other flowers.

Since we were here last, a new greenhouse has been erected in the rear of the others, running diagonally from about the centre of the others, sixty feet long, with a span

roof, and divided into a stove and greenhouse by a glass partition. The first division, which is the greenhouse, we found nearly filled with very fine specimens of pelargoniums, just going out of bloom, but still very showy; the other part, which is the stove, was gay with achimenes, gloxinias, &c. The achimenes were in large pans, a foot or more broad, and each plant formed one immense bouquet, so well were they grown and so luxuriantly flowered. We particularly noticed a fine pan of the gloxinæflora. A plant of the singular but superb variegated leaved Cissus discolor was making immense foliage; it is a rich acquisition. In a pan we noticed some fine heaths, whose culture Mr. Halley seems to understand well, each plant being a perfect pyramid of foliage; after the hot and trying weather of the early part of July, so fatal to heaths, they appeared in remarkably fine order.

The grape-houses were looking well; the crop in the first house was just ripe, and a more even and regular crop we have rarely seen, though not very high colored. Mr. Halley stated that when he took possession of the place, this house was filled with the mealy bug; but by active exertions, nearly similar to the course detailed in the article in our last number, he destroyed them so completely that scarcely one is to be seen: the grapes were perfectly clean. This is the only course to pursue when once the bug gets possession of the house; no half-way measures will succeed; they must be attacked vigorously and continuously *for one season*, until they are completely routed.

Oakley Place is another of the old residences in our vicinity. It was laid out many years ago, and the trees have now attained a large size. The avenue which leads up to the house is long, and bordered with an irregular plantation of trees on each side. On the lawn front are two fine purple beeches, about twenty-five feet high; but the finest specimen of this conspicuous tree that we have ever seen around Boston, stands on an embankment between the house and garden; it is forty or fifty feet high, and perfect in shape, its rich black purple foliage contrasting strongly with the green tints of the surrounding trees.

Mr. George W. Pratt was one of the principal amateurs as long ago as the formation of the Massachusetts Horticultural Society in 1830, and the contributions of flowers which he made from his father's garden were among the rarest and best that were seen at that time. He still takes great interest in plants, and has aided in making up the collection which fills the new greenhouse and stove.

General Notices.

Orchard Houses.—That orchard houses answer their purpose under good management is sufficiently proved by the numbers that are springing up all over the country. They were wanted. With our deteriorated springs the acquisition of a fruit crop had become too much a matter of chance, and with the chances against us. An amateur struggling with cold earth in spring and hailstorms in May was like a gambler playing against the bank; he might win, but was sure to come off, in the long run, a heavy loser. Orchard houses put the small grower at his ease as to a crop, and furnish him with much amusement into the bargain. It is something to be able to watch the expanding flowers and mark their setting, and assist at their first attempts at swelling into ripeness without the probability of catching a catarrh; it is more to feel that whatever time, patience, and money are expended will be certain to bring their reward.

For this we have to thank Mr. Rivers. His book, the "Orchard House," was soon made an amateur's guide, and notwithstanding failures here and there, arising from negligence, ignorance, or inexperience, steadily maintained its ground. We therefore see with no surprise that a fourth edition has been called for. It is a compliment for the author to be proud of; for it is a public acknowledgment of valuable advice and instruction having been rendered. In the present edition two new topics are introduced; one the cultivation of plums in such houses; the other a recommendation to apply the method to tropical fruit trees.

To the first of these proposals we heartily accede. The crops of plums obtained last year in the orchard house in the Horticultural Society's Garden were abundant and excellent, while unprotected trees yielded little or nothing. A reference to our columns of 1855, page 612, will show that Denniston's Superb, Huling's Superb, Reine Claude de Bavay, and a late plum without a name, were the gems of the remarkable exhibition there described. Upon this point Mr. Rivers makes the following new statement:

"It is well known that plum trees in our climate bloom so early in spring as rarely to escape the effects of spring frosts; it may safely be asserted

that a fair crop of Greengages, away from walls, is realized but three years out of seven, even in the south of England, but two years out of seven in the midland counties, and seldom or never in Yorkshire. Now I propose that for those who wish to grow a crop of plums regularly, and yet not incur a heavy expense, rough-built lean-to orchard houses should be erected in some corner of the premises, so as not to be obnoxious to the eye, of larch poles, rough half-inch boards, with two or three sliding shutters for ventilation; in fact, merely a glass-roofed shed on purpose for plum trees in pots while in blossom and setting their fruit. It is surprising with what vigor and beauty plum trees blossom even in the rudest glass structures, and as the trees need not remain in the house longer than the end of the first week in June, when all danger of severe spring frosts is over, they may be placed close together, so that a house 20 feet by 12, with a path in its centre, will hold 96 trees, 48 on each border. The trees may be potted into 13 or 15 inch pots, and treated exactly as recommended for other orchard house trees; with this difference—all the trees with their young fruit on should be removed from the house on the 7th June, and placed in rows or otherwise in the garden to ripen their fruit in the open air. The pots may be plunged in the soil to the extent of one third, but not more; for if the roots are too cold, the fruit will suffer in flavor, and if the soil be wet and cold, it should be drained or made porous, so that the water passes from the pots rapidly, and the top-diessing of manure must be most abundant. As I have before stated, the very late plums must be ripened under glass; but all the varieties that ripen in the open air before the end of September may be grown in great perfection in this way, and regular annual crops insured, if care is taken to thin the fruit properly, for if too large a crop is extorted, the tree *will* have a year's rest. It is quite astonishing how prolific these bushes become in a few years, and by merely pinching off the ends of exuberant shoots, about the end of June, to within three or four inches of their bases, they soon form themselves into compact round-headed trees, quite as ornamental as orange trees in pots and tubs, and far more gratifying as regards utility; for one would not like to place a dish of English oranges, cultivated as they are at present, before one's friends; but English Greengages are always acceptable."

In the views entertained by Mr. Rivers concerning the ripening of tropical fruit trees in heated orchard houses, we cannot concur without considerable qualification. In the first place, very few tropical fruits are worth cultivating; in the next place, few are cultivable. Mr. Rivers himself says: "An orchard house for tropical fruits has long been with me a favorite idea, and recently, from my having had a daughter return from a nearly two years' residence in the West Indies, it has received a fresh stimulus. The variety of tropical fruits seems almost endless; some of them, if I may judge from description, are too rich, others too insipid for English palates, and of the greater part the trees that bear them would require a house far beyond the means of the amateur not blessed with a large fortune." That is very like the fact. What are not too big are worthless; what are good are too big. The cherimoyer is as tall as a large pear tree; guavas, sapo-

dillas, water melons, and rose apples may be attractive in the pages of Paul and Virginia, but would be turned away from an English dessert. Who cares to taste twice the loquats that now come from Madeira; they are about as good as the worst apricot that ever ripened. Mangosteens can never be had out of palatial gardens; and as to mangoes, they find no favor by the side of a nectarine. It may be safely asserted that beyond the pine apple, the orange, the banana, the purple guava, the litchi, the mangosteen, and the cherimoyer, there is little to be hoped for among tropical produce fit for a dessert. The four first we have, the three last are all but unattainable.

But while we are obliged to express our want of faith in the merit of the greater part of the fruits still unintroduced, there is one application of a heated orchard house to which Mr. Rivers draws attention, and in which we agree with him. The orange tree and all its kindred might really repay the cultivator. In England we hardly know what a good orange is; but there is no reason why we should not ripen them as well and as easily as grapes. A heated orchard house offers the means.

"As an ornamental greenhouse and conservatory tree, the orange is an old friend; and perhaps no tree in the known world has suffered, and does suffer, such vicissitudes of treatment, yet living and seeming to thrive under them. It glories in a tropical climate, and yet lives and grows after being poked into those cellar-like vaults used for its winter quarters on the Continent; it gives flowers in abundance under such treatment, and would even give its fruit—albeit uneatible—if permitted. Nearly the same kind of cultivation has been followed for many many years in England: it has rarely had heat sufficient to keep the tree in full vigor, and its roots in pots or tubs must have suffered severely from having been placed out of doors in summer on our cool damp soil, and in winter on a stone floor still more cold. If roots could make their complaints audible, what moaning should we hear in our orangeries all the winter! In cultivating the orange for its fruit, the first consideration is to procure some of the most desirable varieties; those delicious thin and smooth-rinded oranges we receive from St. Michaels; the Maltese Blood oranges, and the Mandarin would be most desirable; with the present facilities of transport, young trees of these could be procured. There are also some sweet oranges cultivated in France, of which trees could be readily procured; but the first-named varieties seem to me most worthy of the careful cultivation to be given them in the tropical orchard house. The first matter of import is the soil best adapted for the orange; there are many recipes given in our gardening books, but the most simple compost of all, and one that cannot fail, is the following: two parts sandy loam, from the surface of some pasture or heathy common, chopped up with its turf, and used with its lumps of turf, about the size of large walnuts, and its fine mould, the result of chopping, all mixed together, one part rotten manure at least a year old, and one part leaf mould; to a bushel of this compost add a quarter of a peck of silver or any coarse silicious sand—calcareous sand and road sand are injurious—and the mixture will do for all the fruit trees of the tropical orchard house, as well as for oranges. In

potting the orange it is better to commence with a pot too small rather than too large; for, unlike the peach or the plum, it does not feed rapidly and at once fill the pot with roots. Thus a tree two or three years old may be potted into a 9-inch pot, suffered to remain for one year, and then removed to a 13-inch pot, perforated as for other orchard-house trees, in which it may remain (unless the house is very large, and a large tree is wished for) six, seven, or ten years; a portion of the surface soil may be removed, as directed for other orchard-house trees, but not deeper than from 3 to 4 inches, early in February, and the pots filled up with the above compost; and about the beginning of March a surface-dressing of manure should be given. I have observed that the French cultivators strew fresh sheep's manure on the surface; they also place their trees in pure peat earth. I have not seen this mode of culture in England, but it may be tried where peat is abundant."

Such is the method proposed for this branch of orchard house cultivation, and we hope to see the recommendation carried out. Gardeners must, however, recollect that there are crab oranges as well as crab apples, and that the fruit of most of the sorts in cultivation is quite unfit for the table. We should not attach much importance to the Bloodred. It is among the sorts grown in Italy, in Malta and Portugal, and in the Western Islands that search must be made for the fine varieties that are likely to repay the trouble that may be taken to grow orange trees for their fruit. If this is not done nothing can come of the proposed experiment except disappointment.

If bushes of the Ugenia Ugni, perhaps the richest in flavor of all the uncommon exotic fruits, were mixed with the orange plants they would give variety to the appearance of a house, and enhance very materially its value. In our own opinion the Ugni, when properly ripened, ranks with the vine and the pine apple. Its fault is that the berries grow singly, and are no bigger than black currants; but on the other hand it produces its fruit in abundance.—(*Gard. Chron.*, 1856, p. 515.)

Fine Specimen of Lilium giganteum.—We have just had our attention called to a magnificent specimen of Lilium giganteum—the "prince of lilies" as it has been justly styled by Sir William Hooker—that has recently flowered in the garden of the Hon. J. Townshend Boscawen, Lamorran Rectory, near Truro, Cornwall. From the drawing and account with which we have been favored, it would appear to be the finest specimen of the kind that has yet been produced in this country, or perhaps in Europe.

The first knowledge that botanists had of this majestic lily was derived from a figure and description of it given by its discover, Dr. Wallich, in his "Tentamen Florae Nepalensis Illustratæ," printed at Calcutta in 1824; but the honor of introducing it is due to the late Colonel Madden, who sent home seeds of it 1846 or 1847, and from these, as well as the more recent importations that have been made by Messrs. Veitch and Son of Exeter and Chelsea, we believe all the plants of it now in cultivation originated. The first that flowered in Europe was a plant in the collection of Messrs. Cun-

ningham, nurserymen, Comely Bank, near Edinburgh, from which a drawing was made in July, 1852, and subsequently published in the Botanical Magazine, fol. 4673. We are there informed on the authority of Colonel Madden, that "the plant is common in the damp thick forests of the Himalaya, the provinces of Kumaon, Gurwhal, and Bushur. It grows in rich black mould, the bulb close to the surface, at from 7500 to 9000 feet above the level of the sea, where it is covered with snow from November to April. The hollow stems are commonly from six to nine feet high, and are used for musical instruments."

The Lamorran plant, we learn from Mrs. Boscawen, was one of four which were offsets taken in November, 1854, from a plant that flowered out of doors in July of the same year. The bulb was unprotected through the severe winter of 1854–5, when the thermometer was down as low as 10° (Fahrenheit) at Truro; and it has also borne the two last trying springs of 1855 and 1856 without protection. With these facts before us there cannot now be any doubt about the hardiness of this noble lily, and of its being able to endure without injury the usual severity of an English winter, even in places which have not the advantage of possessing the soft and balmy air of a Cornish climate. The height which the flower stem attains in the course of a season is most unusual for any of the lily tribe. Dr. Wallich's specimen is stated to have been 10 feet high, which was also the height of that of Messrs. Cunningham, the flowering portion at the top measuring 20 inches and bearing 12 flowers. The Lamorran lily, however, considerably exceeded these, and must have been a very striking object, being no less than 12 feet high, with a raceme of 18 large white drooping flowers, somewhat resembling those of the common white lily, excepting that they had a deep purplish tinge along the inner edge of each division of the perianth. When in perfection they measured five and a half inches across the mouth of the tube, and were no doubt similar to those described by Dr. Wallich "delightfully fragrant."

We congratulate Mr. Boscawen on the success which has attended his experiment of cultivating this fine plant in the open air, and trust it may be the means of inducing him to continue the interesting inquiry on which he has entered. No situation in Cornwall is better adapted for experiments in this way than Lamorran, nor could a more beautiful family of plants have been named for such a purpose than the one Mr. Boscawen has selected. Let us hope that it will not be long before we are made acquainted with the comparative hardiness of other East India lilies, as well as of those lovely kinds from China and Japan with which our gardens were enriched some years ago, and which now form the most attractive ornaments of our conservatories during the latter part of summer and autumn.—(*Gard. Chron.* 1856, p. 596.)

Destruction of Ants by Guano.—A curious discovery is said to have been made by a French gentleman whose garden was most inconveniently invaded by ants. They swarmed at Rambouillet in his flower baskets and among his flower beds to such a degree that it was impossible to

attack them with boiling water without killing the plants. M. du Ribert therefore took another course. After stirring well up the ant heaps and removing the "eggs" he scattered over them a few handfuls of guano; and with such success, as he states, that his whole garden was presently cleared.

This gentleman regards guano as an ant poison, and he declares it to be his conviction that under all circumstances its action will be the same. He found it useful to water the guano slightly after having applied it, but it does not appear that this was of so much consequence to the ants as to the plants.

In order to test this statement we have made a few experiments with the following results:—

1. A nest of the small black ant, formed among a tuft of aubrietia, was well stirred up, and the eggs exposed. A small handful of guano having been scattered over it, the ants were immediately thrown into confusion, the business of removing the eggs came to a stand still, and by degrees the ants disappeared. Water was added, and the nest once more stirred up. At noon next day the eggs were found deserted, and the ants were gone.

2. The same with a smaller nest in the hard dry clay of a lawn. Same result.

3. A large hill of the small red ant, very strongly entrenched among *Sedum populifolium*, was disturbed, and a handful of guano thrown over it; astonishment, commotion, confusion, scamper, helter skelter, immediately ensued; eggs again abandoned; the army of ants quickly disappeared. A pan was then half filled with earth from the same ant hill, mixed with a swarm of ants and numberless eggs; guano being applied the result was similar. The eggs were instantly abandoned, and the ants endeavored to escape. Water was added; and the earth and guano mixed with a trowel. Next day at noon there was no trace of life in the mixture. The eggs were untouched and becoming brown. Whether the ants had escaped or run away could not be ascertained.

4. At 3 P. M. a pint wide-mouthed clear glass bottle was filled with some hundreds of red ants, eggs, and the earth from another hill; guano was added, muslin was tied over the mouth of the bottle, and the proceedings watched. As before, the eggs were abandoned, and the ants ran rapidly backwards and forwards as if in much distress. The winged ones behaved like the others, making no attempt to fly away. The bottle was left all night in a warm room. At this moment, 10 A. M., the ground is strewed with ants motionless and apparently dead; the eggs remain mixed confusedly with the earth, without an attempt having been made by the insects to collect them. One winged and four wingless ants are crawling over the surface. Beyond this no signs of life are apparent.

Hence it seems that guano is fatal to the vitality of ants. How does it act? In the samples of guano employed the smell of ammonia was inconsiderable, owing to long keeping.—(*Gard. Chron.*, 1856, p. 531.)

SUBURBAN GARDENS.—I saw a pretty effect the other day at Wells, (Somerset), which is worthy of imitation; it is that of making the flat roof of the porch a platform for a low stage for plants in flower. Those I saw looked exactly as if a huge bouquet had been placed on the porch, no part of the stage being visible, if indeed there was any, or merely plants arranged according to their height. The flowers are easily watered from the staircase window.—(*Gard. Chron.*, p. 518.)

Massachusetts Horticultural Society.

Saturday, Aug. 23d.—Exhibited. FLOWERS: From J. Nugent, Mrs. W. J. Underwood, Mrs. E. B. Grant, Mrs. Holman, E. S. Rand, Jr., F. Winship, P. Barnes, E. Stone, T. W. Walker, A. Bowditch & Son, J. Breck & Son, Hovey & Co., and others.

GRATUITIES AWARDED.

To E. S. Rand, F. Winship, P. Barnes, Galvin & Hogan, J. Nugent, T. W. Walker, A. Bowditch & Son, W. J. Underwood, Mrs. E. B. Grant, Mrs. Holman, Miss Bird, Miss Russell, and Miss A. C. Kenrick, $1 each.

FRUIT: From J. F. Allen, Rose Chasselas, White Rissling, and other grapes, 4 var. figs, and Manning's Elizabeth pears; also, Allen's Hybrid grape, raised under glass; the berries were of good size, larger than those heretofore shown, and the quality excellent. It only remains to be seen if it will maintain its good qualities in out-door culture. From A. D. Webber, melons. From B. Harrington, Williams, River, Sops of Wine and other apples. From J. W. Clark, Benoni apples, fine. From E. M. Richards, Christiana melons. From F. G. Merriam, Lawton and Improved Blackberries. From J. Stickney, Tyson pears. From F. Dana, Seedling pears No. 2. From T. Clapp, Williams apples, fine.

From the President, Rostiezer, Manning's Elizabeth, and Sugar pears of Hoyerswerda. From Hovey & Co., 26 var. of pears, as follows: Skinless, Muscadine, Passans du Portugal, Dearborn's Seedling, Belle de Bruxelles, Duchess de Berri, Salviati, Golcondi Nova, Tyson, Bloodgood, Jargonelle, Winship's Seedling, Windsor or Bell, Espadonne, Ott, Limon, Rostiezer, Bergamot, Manning's Elizabeth, Summer Francreal, Boston, Calebasse d'Ete, Summer St. Germain, and Beau Present d'Artois. From H. Vandine, Muskingum, Rostiezer, D. Seedling, and French Jargonelle pears; also, 8 vars. plums.

Aug. 30th.—Exhibited. FLOWERS: From J. Nugent, W. C. Strong, P. Barnes, E. S. Rand, Jr., Mrs. Holman, Miss Russell, B. Harrington, Mrs. Helen H. Gore, Freeport, Me., W. H. Spooner and others.

J. F. Allen sent three blooms of the African blue lily, and a Cattleya, beautifully in flower. Mr. Rand had, among other flowers, fine specimens of Physianthus albens, a fine climber not often cultivated. F. Winship

sent a new dahlia, called "Sans Egal," a very beautiful one, white, very faintly striped with crimson. Hovey & Co. contributed several new dahlias—among them, Dejanire and Lord Bath. Galvin & Hogan sent a plant of *Inga* pulchérrima in bloom.

GRATUITY AWARDED.—To J. F. Allen, for an orchid, $1.

FRUIT: From B. Harrington, several var. of apples, pears and peaches. From E. M. Richards, extra fine Christiana melons. From F. March, Cogswell apples. From Evers & Bock, Dearborn's Seedling pears. From F. Dana, Seedling pears No. 2, and Orange Sweet apples. From S. Downer, extra fine Tyson pears. From J. W. Foster, fine specimens of a sweet apple, name unknown. From Galvin & Hogan, 6 var. pears and Green Gage plums. From Ed. Walker, figs. From Lyman Kingsley, Black Hamburgh and Muscat of Alexandria grapes.

From Hovey & Co., Summer St. Germain, Winship's Seedling, Boston, Gustin's Summer, Elizabeth, and other pears. From G. Merriam, Improved blackberries. From D. W. Lincoln, Rostiezer and Sterling pears. From E. Stone, pears. From J. Stickney, Passans du Portugal, Rostiezer, and Beurré d'Amalis pears. From H. Vandine, 16 var. plums and 4 var. pears. From B. Bradley, Red and Yellow Crab apples. From Geo. Nichols, Jr., Salem, Black Hamburgh and White Hamburgh grapes, large bunches. From J. F. Allen, 4 var. of grapes, including Allen's Hybrid. From E. Brown, 4 var. pears.

AWARD OF PREMIUMS FOR FRUITS.

APPLES.—For the best Summer, to Messrs. Burr, for Red Astrachan.
For the second best, to J. W. Foster, for Early Harvest.

PEARS.—For the best Summer, to S. Downer, for Tyson.
For the next best, to H. Vandine, for Muskingum.
For the next best, to Hovey & Co., for Boston.

BLACKBERRIES.—For the best, to J. Nugent.
For the second best, to G. Merriam.
For the third best, to J. W. Foster.
For the fourth best, to G. B. Cutter.

CURRANTS.—For the best, to J. W. Foster, for Red Dutch.
For the next best, to Capt. G. Wilson, for White Dutch.

GOOSEBERRIES.—For the best, to J. W. Foster.
For the next best, to A. D. Webber.

RASPBERRIES.—For the best, to J. W. Foster, for Knevet's Giant.
For the next best, to Capt. Austin, for the same.
For the next best, to Geo. Davenport, for Brincklé's Orange.

Sept. 6th.—Exhibited. FLOWERS: From J. Breck & Son, P. Barnes, J. Nugent, W. J. Underwood, F. Winship, Hovey & Co., Galvin & Hogan, and others.

The principal display of flowers was the asters, which were unusually fine. There were nearly twenty contributors of this flower. The Pivones were very large, double, and well shaped.

Hovey & Co. exhibited eighteen varieties of asters, and a quantity of Japan lilies.

AWARD OF PREMIUMS AND GRATUITIES.

ASTERS.—For the best thirty flowers, 10 var., to Evers & Bock, $5.
For the next best, to Hovey & Co., $4.
For the next best, to Jas. Nugent, $3.
For the next best, to A. Bowditch & Son, $2.

GRATUITIES.—To W. C. Strong, Jona. French, Jr., Galvin & Hogan, Wm. Blake, E. S. Rand, Jr., J. Breck & Son, and Messrs. Burr, for asters, $1 each.

To W. J. Underwood $2 for stocks, and J. Nugent $1 for the same.

FRUIT: From L. Spaulding, Bartlett pears. From M. Leavett, grapes. From C. E. Grant, Green Gage plums and Coolidge's Favorite peaches. From T. Clapp, Gravenstein apples, extra fine. From E. Wight, Gravenstein apples and Doyenné Boussock pears. From Jas. Eustis, Burr, Maiden's Blush, Porter and Gravenstein apples. From T. Hastings, Diamond plums. From B. Harrington, Bartlett pears and a var. of peaches. From G. Nelson, Bartlett pears and four var. peaches. From F. Dana, Beurré d'Amalis pears. From F. Marsh, Bartlett pears. From J. W. Baldwin, figs. From Gen. Joseph Newhall, fine figs. From J. V. Wellington, three var. peaches. From Galvin & Hogan, Andrews, Doyenné Boussock, Belle Lucrative and Bartlett pears, peaches and plums.

From Hovey & Co., Boston and Duchess de Berri pears. From E. C. Holmes, East Bridgewater, native grapes. From N. Stetson, Noblesse and Shanghae Chrystan peaches; the latter very large, beautiful and excellent: whether an imported variety or a seedling we are uninformed. From S. Merriam, pears and Improved blackberries. From H. Vandine, 19 var. plums, four var. apples, and eight of pears. From J. S. Sleeper, handsome specimens of St. Ghislain, Harvard and Beurré d'Amalis pears; also, three var. apples.

THE TWENTY-EIGHTH ANNUAL EXHIBITION OF THE SOCIETY was held at the Music Hall, Boston, on Tuesday, Wednesday, Thursday and Friday, Sept. 16, 17, 18 and 19. The hall was decorated in a similar manner to that of the year previous, but in better style, and with a greater profusion of evergreens and flowers. The ceiling was festooned with streamers of various colors, and the columns were prettily wreathed. The arrangement of the tables was the same, and the plants were arranged on the stage upon the platform, in the rear of the designs, which occupied a prominent position in front. On the panels of the galleries were the names of eminent botanists, horticulturists, pomologists, and patrons of the Society. The Germania Band discoursed eloquent music both day and evening, and a pleasanter promenade could scarcely be conceived than the rounds of the hall, amid beautiful flowers and fine fruits. The display of plants in pots, though not large, was an improvement on last year. Some of the specimens were superb. The Heaths of Mrs. Pratt, and the Achimenes of Hovey & Co., could not well be surpassed. A *Nymphæa cærulea*, from E. S. Rand, Jr., and a bloom of Victoria from J. F. Allen, were attractive objects. The Designs, though good, were scarcely up to the standard of

excellence. The Parlor Bouquets, with some exceptions, were very indifferent. Fine displays of cut roses, by C. Copeland and P. Barnes, added greatly to the display of cut flowers; but for these, and the asters and Japan lilies of Hovey & Co., this department would have been rather meagre. On the whole it was a grand show.

PLANTS IN POTS: From J. P. Cushing, 43 plants, among which were some good heaths, Cissus discolor, &c. From E. S. Rand, Jr., 40 plants, in variety; also 6 pots balsams, 25 pots asters, and a tub containing the Nymphæ'a cærùlea. From M. P. Wilder, 30 plants, among which were Stephanòtus floribúndas, Agnóstus sinuàtus, Allamánda Aublètia, Siphocámpalus nitida, &c. From Mrs. Wm. Pratt, 25 plants, including some fine heaths. From Hovey & Co., 25 plants, among which were 12 fine Achimenes, viz., A. Edmund Bossiere, Dr. Hoft, Ambrose Verschaffelt, Tydæ'a gigántea and Decaisnesiàna, Mandiròla Roelxii, Cissus discolor, Céstrum diúrnum, &c. From F. Winship, 25 plants. From T. W. Walker, 20 plants, 6 balsams in pots, 12 coxcombs, &c. From W. C. Strong, 15 plants of fuchsias, geraniums, &c. From J. F. Allen, a fine plant of Oncidium papílio. From J. McTear, a plant of Rondelètia speciòsa.

FLORAL DESIGNS, BOUQUETS, &c.: The floral designs were numerous. From Galvin & Hogan, a Temple of Flora, composed of moss, evergreens, and flowers, thatched with straw. From Curtis & Cobb, a Rural Flower Stand. From Miss Ellen M. Harris, a Floral Fountain, composed of asparagus and flowers, very pretty. From E. S. Rand, Jr., a Floral Temple with Fountain. From A. Meyer, a Floral Cottage. From Ambrose Bohan, a Globe and Eagle, made of amaranths. Designs were also contributed by Mrs. R. W. Holman, Mrs. W. Kenrick, Mrs. E. B. Grant, R. M. Copeland, John C. Hovey, and others.

The award of premiums will show who were the contributors of the best bouquets and cut flowers. We have no space to enumerate them here.

PREMIUMS AND GRATUITIES AWARDED FOR DESIGNS, PLANTS, ETC.

FLORAL DESIGNS.—For the best, to Miss Ellen M. Harris, $40.
For the second best, to E. Rand, Jr., $30.
For the third best, to Galvin & Hogan, $20.

VASE BOUQUETS.—For the best specimen, to Hovey & Co., $10.
For the second best, to J. Nugent, $6.

PARLOR BOUQUETS, &c.—For the best pair, to M. P. Wilder, $8.
For the second best, to Galvin & Hogan, $7.
For the third best, to F. Winship, $6.
For the fourth best, to E. S. Rand, Jr., $5.
For the fifth best, to G. Leland, $4.
For the sixth best, to T. W. Walker, $3.
For the best Mantel bouquet, to E. W. Carter, $5.

PLANTS IN POTS.—For the best specimens, to J. P. Cushing, $25.
For the second best, to M. P. Wilder, $20.
For the third best, to Mrs. Wm. Pratt, $15.
For the fourth best, to T. W. Walker, $12.
For the fifth best, to E. S. Rand, Jr., $10.

COXCOMBS.—For the best six vars. in pots, to G. Leland, $3.
For the second best, to T. W. Walker, $2.
BALSAMS.—For the best six vars. to T. W. Walker, $3.
For the second best, to E. S. Rand, Jr., $2.
To Galvin & Hogan, gratuity of $2.
CUT FLOWERS.—For the best display and best kept during the Exhibition, to C. Copeland, $10.
For the second best, to P. Barnes, $8.
For the third best, to F. Winship, $6.
For the fourth best, to J. Breck & Son, $4.
For the fifth best, to E. S. Rand, Jr., $3.

GRATUITIES.

DECORATIONS.—To Mrs. W. H. Underwood, for two basket stands of flowers, $3; to Mrs. W. H. Spooner, for moss flower basket, $2; to Mrs. Wm. Kenrick, for floral representations of an anchor and scales of justice, $8; to Curtis & Cobb, for rural flower stand, $8; to Miss Russell, for flower stand with baskets, $5; to Miss A. Kenrick, for a flower basket, $3; to C. S. Holbrook, for pair frame bouquets, $2; to R. W. Holman, for stand of flowers, $3; to Galvin & Hogan, for vase of flowers, $1; to Mrs. E. B. Grant, for two floral stands, $4; to Mrs. W. J. Underwood, for floral stand, very fine, $4; to Miss E. Murray, for two dishes flowers, $1; to Mrs. E. L. West, for specimen of silk reed from San Domingo, $1; to A. Myer, for floral cottage, $2; to G. Leland, for altar with globe and eagle, $3; to Miss E. M. Harris, for frame of pressed flowers, $2; to Mrs. Flanders, for moss work, $3; to to Miss E. M. Harris, for wax flowers, $2; to Mrs. Hardy, for woven work, $1; to Mrs. E. Hester, for basket of flowers in frame, $2; to Mrs. G. L. Folger, Nantucket, for wax flowers in frame, $3; to M. R. Hudson, for a frame pressed flower, $2; to R. M. Copeland, for amaranth frame, $1; to J. C. Hovey, for amaranth eagle, $2; to Mary Capen, for pressed flowers in frame, $1; to Mrs. R. Walsh, for arranged grasses, $2; to Mrs. Hardy, for basket wax fruit, $1; to A. A. Richmond, for two collections of insects, $3; to E. E. Willey, for wax fruit, very fine, $3.

PLANTS IN POTS.—To Hovey & Co. for new and rare Achimenes, $5; for collection of plants, $5.

CUT FLOWERS.—To M. & F. Burr and A. J. Washburn, for collections, $3 each; to B. V. French, W. C. Strong, T. Smallwood, and W. J. Underwood, $2 each; to J. French, G. N. Comer, J. Fussell, R. Murray, B. Dennis, and J. Murray, $1 each; to Hovey & Co. for lilies and asters, $2; to the Public Garden, for asters, $2; to E. S. Rand, Jr., for 25 pots of the same, $2; to J. F. Allen, for specimens of the Victoria Regia, $5; to E. S. Rand, Jr., for Nymphæa cærulea, a copy of Allen's Victoria Regia; to Spooner & Curtis, for air plant, $2; to J. F. Allen, for the same, $3.

Bouquets.—To C. Copeland, $3; to Sarah Fiske, E. S. Rand, Jr., and Cambridge Botanic Garden, $2 each; to J. Rupp, Mrs. L. Spaulding, A. C. Kenrick, Miss Whiting, Miss G. A. Snow, and Miss H. Snow, $1 each.

Decorations.—To A. C. Bowditch, of Boston, for hall decorations, a richly bound set of Hovey's Fruits of America. The manner in which the Music Hall was adorned exemplified the excellent taste of the recipient of this gratuity, and the public will heartily endorse the action of the management in recognizing his exertions, which realized them so much pleasure.

Fruit: From the President of the Society, 150 varieties of pears, comprising Des Deux Sœurs, Merriam, Doyenné Sterckman, Beurré Sterckman, B. Montgeron, B. d'Amande, B. Clairgeau, B. Langelier, Vesouziere, Prevost, Grand Soliel, Fondante de Malines, &c.

From Hovey & Co., 300 varieties of pears, among which were Beurré Superfin, B. Sterckman, B. Kennes, B. Bachelier, B. Clairgeau, B. Millet, B. Langelier, Duc de Nemours, Fondante du Comice, F. de Noel, Merriam, Calebasse Delvigne, Sheldon, Pratt, St. Menin, Graslin, Delices d'Hardenpont of Belgium, d'Albret, Vesouziere, Ropes, Wredow, Grand Soliel, La Juive, Abbott, Gen. Lamoriciere, Alex. Bivort, Coter, Henkel d'hiver, Howell, King, Adams, Hanover, Belle Julie, Suzette de Bavay, &c. Also, 14 var. peaches.

From M. P. Wilder, 285 var. of pears, viz.: Beurré Kennes, B. Superfin, B. Clairgeau, B. Bachelier, B. Sterckman, Chas. Van Hooghten, Counseilleur Ranwez, Kirtland, Abbott, Comtesse d'Alost, Retour de Rome, Comte de Flandres, De Sorlus, Doyen Dillen, Nouveau Poiteau, Vesouziere, Grand Soliel, Calebasse Delvigne, Lodge, Beurré Van Marum, Gansell's Late, &c.

From S. Walker, 120 var. of pears, among which were Beurré Clairgeau, B. Superfin, Gratioli of Jersey, Beurré Duval, Van Mons Leon le Clerc, Howell, &c.

Fine shows of pears were also made by J. Stickney, S. Downer, J. Gordon, A. D. Williams & Son, N. Ames, W. Bacon, R. Manning, Rev. Mr. Anderson, S. Sweetser, J. Eaton, W. R. Austin, Josiah Richardson, D. W. Lincoln, Galvin & Hogan, and others.

Apples were contributed by J. Eustis, M. & F. Burr, W. W. Wheildon, J. B. Moore, Gen. Newhall, B. V. French, B. Harrington, George Nelson, J. W. Foster, Messrs. Lovett, Mrs. Goodnow, and others.

Of native grapes there was not a large supply, owing to the cool and wet autumn. E. A. Brackett sent the Delaware in fine condition; also a new seedling grape. Wm. Brooksbanks, of Hudson, N. Y., sent the Rebecca, splendid specimens. E. W. Bull, fine Concords, and C. E. Grant, well ripened Isabellas.

The most beautiful greenhouse grapes were from Mrs. F. B. Durfee, Fall River, and contained some superb clusters and very large berries. M. H. Simpson had fine specimens from his vines of the third crop in two years.

The number of contributors was large, and in the absence of the Socie-

ty's record, we are unable to enumerate them. It is gratifying to find that there was a great number of amateur contributors, especially of pears, showing the interest felt in the culture of this delicious fruit.

PREMIUMS AND GRATUITIES FOR FRUITS.

APPLES.—For the best 30 var., of 12 specimens each, to T. Clapp, $20.
For the second best, to M. & F. Burr, $15.
For the third best, to B. V. French, $12.
For the best 20 varieties, to James Eustis, $15.
For the second best, to Gen. Josiah Newhall, $12.
For the best 10 varieties, to J. B. Moore, $10.
For the second best, to J. Gordon, $8.
For the third best, to W. W. Wheildon, $6.
For the best single dish of 12 specimens, to T. Clapp, for Gravenstein, $5.
For the second best, to B. Harrington, for Hub. Nonsuch, $4.
For the third best, to G. Nelson, for Porter, $3.
For the fourth best, to Mrs. C. W. Goodrich, for Orange Sweet, $2.
PEARS.—For the best 30 varieties, to M. P. Wilder, $20.
For the second best, to Hovey & Co., $15.
For the third best, to J. Gordon, $12.
For the fourth best, to D. W. Lincoln, $10.
For the best 20 varieties, of 12 specimens each, to J. Stickney, $15.
For the second best, to J. Richardson, $12.
For the third best, to W. R. Austin, $8.
For the fourth best, to A. D. Williams, $6.
For the best 10 varieties, to R. W. Ames, $10.
For the second best, to W. Bacon, $8.
For the third best, to S. Downer, $6.
For the fourth best, to J. A. Stetson, $4.
For the best single dish, to J. Eaton, for Flemish Beauty, $5.
For the second best, to J. Gordon, for Andrews, $4.
For the third best, to J. Richardson, for Flemish Beauty, $3.
For the fourth best, to S. Lane, for the same, $2.
GRAPES.—For the best 5 varieties, two bunches each, to Mrs. F. B. Durfee, $10.
For the second best, to S. Austin, $8.
For the third best, to J. Breck & Son, $6.
For the best 2 varieties, two bunches each, to M. H. Simpson, $5.
For the second best, to B. D. Emerson, $4.
For the third best, to C. E. Grant, $3.
For the fourth best, to T. Page, $2.
For the largest and best collection of not less than 6 varieties, to J. F. Allen, $10.
ASSORTED FRUIT.—For the best basket of various fruit, to M. P. Wilder, $12.
For the second best, to C. E. Grant, $10.
For the third best, to J. Bumstead, $8.
For the fourth best, to W. A. Crafts, $6.

For the fifth best, to J. Murray, $5.

For the sixth best, to Galvin & Hogan, $4.

For the seventh best, to A. D. Williams, $3.

For the eighth best, to B. Harrington, $2.

PLUMS.—For the largest and best collection of not less than four varieties, to H. Vandine, $5.

For the second best, to J. Gordon, $4.

GRATUITIES.

APPLES.—To Messrs. Lovett, 1 vol. of Hovey's Fruits of America; to Mrs. C. W. Goodrich, for collection, bronze medal; to J. Eustis, for dish of Maiden's Blush, 1 vol. of Hovey's Magazine; to J. W. Foster, for Porter, 1 vol. Horticulturist; to F. Marsh, for Cogswell, 1 volume Hovey's Magazine; to M. H. Simpson, for 20-Ounce, bronze medal.

PEARS.—To G. Southack, J. S. Sleeper, H. Vandine, J. French, J. A. Stetson, Rev. T. D. Anderson, 1 copy each of Victoria Regia; to J. Shepard for Shephard's Seedling, H. Bradlee for collection, E. A. Story for do, G. B. Cordwell for do, A. Low for do, F. Marsh for do, G. Davenport for do, N. White for do, A. J. Dean and W. A. Crafts for do, Society's silver medal; to L. Wheeler and S. Austin, severally, for collections, the Society's bronze medal; to W. H. Spooner, C. F. Curtis, G. Harris for collections, W. P. Valentine, A. W. Stetson, T. Thaxter, Jr., J.W.Foster, and P. R. L. Stone for Bartlett, each, one year's subscription to Hovey's Magazine; to G. Newhall for King of Wurtemburg, $2; to A. Bullard, D. Hill, J. Mason, W. H. Palmer, E. C. Stevens, B. D. Emerson, for collections, $2; to H. B. Ward, for collection, $1; to R. Manning for do, $5; to J. A. Kenrick for do, $2; to J. Murray for do, $3; to S. Sweetser for do, $2; to F. Dana for do, $3; to E. Wight for do, $1; to F. Gould for Andrews, Hovey's Magazine.

PEACHES.—To Hovey & Co. for 14 fine var. peaches, the silver medal; to G. Davenport, for Early Crawford, $5; to P. R. L. Stone, for Coolidge's Favorite and Early Crawford, $4; to T. Clapp, for Crawford and Grosse Mignonne, $3; to J. S. Sleeper, for Royal George, $2.

GRAPES (Native.)—To E. A. Brackett, for Seedling and Delaware, $5; to C. E. Grant and G. B. Cutter, for Isabellas, each, $3; to J. Cass for do, $2; to E. W. Bull, for Concord, $2; to N. Harding, for Sweetwater, open culture, $2.

MISCELLANEOUS FRUIT.—To Wm. Brooksbanks, Hudson, N. Y., for new hardy grape Rebecca, Society's silver medal; to D. E. Jewett, for peaches, do.; to Jas. Doriss, (gardener to W. S. Wetmore, Esq., Newport,) for fine display of grapes, do. To H. B. Ward for peaches, and P. Austin for nectarines and peaches, copies of Hovey's Magazine. To W. Bacon for peaches and plums; to G. Newhall for figs and peaches; to Galvin & Hogan for plums and peaches, copies of the Horticulturist. To F. Dana for peaches; to R. P. Stebbins for do.; to L. Taylor for do.; to G. M. Willis for plums, peaches and nectarines; to Mrs. Wells for Sweetwater grapes; to Nancy Sargent for

peaches; to Spooner & Curtis for peaches and plums; to A. Harris for peaches; to W. Brigham for do., $1 each. To T. Hastings for plums; to M. H. Simpson for do.; to B. F. Nourse, Bangor, for do., $2 each.

VEGETABLES.—The display was not quite equal to some former years, as many of the liberal and extensive contributors were more or less engaged in the order of exercises in carrying out the arrangements of the celebration for the Franklin Statue. Yet the display was good and exceedingly interesting in the many new and choice varieties for field and the kitchen garden. The Holchus saccharatus, or Chinese Sugar Cane, was shown by several contributors, and we have no doubt in saying that in a few years it will be very extensively cultivated, either for the feeding of stock or for the manufacture of sugar, as it seems to grow and thrive as well as any of the established varieties of corn. It seems to present to the cultivator a new field for large experiments, and we hope to be able to report upon the same being made next season.

Messrs. Stone & Sons of Newton, Josiah Stickney of Watertown, B. V. French of Braintree, F. Marsh of Dedham, John Gordon of Brighton, Henry Bradlee of Medford, J. B. Moore of Concord, John Fussel of Roxbury, were among the largest contributors, and many of the specimens shown were of gigantic size, receiving the highest encomiums of praise.

Messrs. Hyde & Son offered a large collection of potatoes, 67 varieties, explaining on their cards their relative value for culture; also some very fine improved King Philip corn, of this year's growth, and quite ready for the mill. Messrs. Burr offered in their collection their improved Sweet corn, of fine size, uniform and from 16 to 18 rows on the cob; it is generally considered one of the finest varieties of sweet corn in cultivation. M. & C. French offered a fine display of selected Canada corn. J. Reynolds of Jamaica Plain, three Mammoth squashes, the product of one vine, viz., 116, 101 and 97 lbs. each. S. A. Merrill of Salem, Mammoth squash, 122 lbs., with a collection of other varieties. J. C. Hovey of Cambridge, a fine collection of squashes, among which was the Tunburn, rich with its golden hues. George N. Comer of Auburndale made a decided hit in his display, with his nest of vegetable eggs. J. P. & F. Rand, Roxbury, magnificent grown Sweet potatoes, from slips since the 6th of June. Dr. John Ware, Weston, seed and stalk of Colza, or the French Oil plant. T. W. Walker, Waltham, Jona. French, Roxbury, James Murray, Roxbury, fine specimens of Large Purple Egg plants. E. S. Erland, specimen wheat from California. Bowen Harrington, Lexington, a prominent collection, crowned with rich yellow pumpkins, though not up to mammoth size.

PREMIUMS AND GRATUITIES AWARDED.

BEST DISPLAY.—To J. Stone & Sons, $15.
For the second best, to B. V. French, $10.
For the third best, to J. B. Moore, $8.
For the fourth best, to Josiah Stickney, $6.
For the fifth best, to J. Fussell, $4.

To H. Bradlee, for new variety, (Early Round Parsnip,) $5.

CABBAGE.—For the best three heads of Drumhead, to J. Stickney, $4.

For the second best, to B. V. French, $3.

For the third best, to G. N. Comer, $1.

MUSK MELONS.—For the best three Christiana or Greenflesh, to J. Gordon, Greenflesh, $3.

For the second best, to J. Stickney, for Greenflesh, $2.

For the third best, to F. Marsh, for Christiana, $1.

WATER MELONS.—For the best, not less than two, to J. Gordon, for Black Spanish, $3. No others awarded.

MAMMOTH SQUASHES.—For the largest and best, to G. Reynolds, the Society's silver medal.

For the second best, to G. Reynolds, $3.

MAMMOTH PUMPKINS.—None exhibited.

GRATUITIES.

To J. Hyde & Son, for collection of potatoes, 1 vol. Hovey's Fruits of America.

To A. Bowditch, for Burr's Improved Sweet corn, from seed planted since July 6th; Messrs. Burr, for collection; F. Marsh, for the same, one copy, to each, of Allen's Victoria Regia.

To T. Smallwood, B. Harrington, J. Murray, for collections, to each, one copy of Colman's Agriculture.

To J. P. & F. Rand, for Sweet potatoes; Henry Bradlee, for collection; T. Page, for fine vars. of potatoes; G. N. Comer, for collection; M. & C. French, for Improved Canada corn, to each, Society's silver medal.

To J. C. Hovey, for fine squashes, $5. F. Dana, State of Maine potatoes; Mr. Prince, for Iowa melon; E. Holden, for Club gourds; W. H. Sumner, for collection, to each, Appleton bronze medal.

To S. A. Merrill, for squashes; E. C. Stevens, for collection; J. Bumstead, for the same, to each, one year's subscription to Hovey's Magazine, from Jan. 1, 1857.

To S. A. Merrill, for Mammoth squash; J. French, for Egg plants and celery; J. Hyde & Son, for King Philip corn; S. Austin, for melons; S. Austin, for collection; J. Stone & Sons, for basket of vegetables; T. W. Walker, for Egg plants; M. H. Simpson, for mammoth tomatoes, $2 each.

To Messrs. Burr, for Chinese yam (Dioscorea batatas); Hovey & Co. for the same; B. Harrington, for Chinese Sugar cane; Botanic Garden, for the same; J. Hyde & Son, for the same; A. W. Copenhagen, for the same; C. Merrill, for the same; G. A. Smith, for the same; G. C. Lord, for frame cucumbers; J. Mason, for collection of tomatoes; Miss S. Carter, for vegetable eggs; G. Miller, for Club gourd; B. Spindler, for collection; J. M. Whittemore, for Crookneck squash; W. J. Underwood, for Champion of England peas; J. Gordon, for squashes; J. B. Moore, for melons; A. Hall, for Club gourds; W. Rawson, for brace of melons; J. Murray; M. Davis, for Davis Seedling potatoes; J. W.

Parkhurst, for Club gourd; Miss Riddle, for yellow tomatoes; J. Crosby, for celery and Drumhead cabbage; T. Page, for cauliflower; E. M. Richards, for fancy gourds; E. M. Richards, for Christiana melons; B. Dennis, for cauliflower, $1 each.—D. T. Curtis, *Chairman.*

Horticultural Operations

FOR OCTOBER.

FRUIT DEPARTMENT.

With October come frosts and cool weather, which soon put a check upon vegetation. It is now the season to prepare ground for spring, or for transplanting the present autumn, which may be done quickly after the middle of the month, or at least as soon as the trees lose their foliage. Draining and trenching must not be neglected if fine fruit is an object, unless the soil is naturally deep and rich.

Grape Vines in the greenhouse should now be cleared of as much of their foliage as will separate easily from the stem by sweeping them, or picking by hand; prune off all green wood, and air the house as much as possible in order to ripen the canes, on which depends the excellence of next year's crop. Early houses may have the same attention, and if to be started soon, the vines should be pruned, cleaned, and put in readiness for forcing. Cold houses should be kept as dry as possible, especially if the grapes are not all cut. Neglect no opportunity to air freely.

Strawberry Beds, made last month, will require attention. If a favorable autumn, they will make young runners freely. Plants potted last month for forcing should be shifted now into their fruiting pots.

Figs in pots should have the protection of a cold grapery, or the cellar, where the frosts will not injure the young wood.

Fruit Trees in pots should be more sparingly watered, in order to get good ripe wood.

Fruit Trees may be transplanted this month, as above directed.

Gathering Fruit, where there are many bearing trees, will require attention. Do this in dry weather, and always in the morning if possible. Pack in perfectly clean barrels or boxes, or carry to the fruit room.

Canker-worms will begin to run after the first hard frosts; see that the trees are well protected with tar or composition.

FLOWER DEPARTMENT.

With the first occurrence of hard frost, the garden is shorn of many of its most decorative objects; the dahlias and balsams are the first to feel cold nights, and their blackened tops are unsightly things; cut them away at once, the latter wholly and the former in part, as they ripen their roots better than if headed down to the ground. Before such hard frosts all tender things should be secured in frames. The houses will now be filled with plants, and they should be put in good order as soon as possible; do

not crowd everything in at once, but let the smaller plants stand out in frames until the last of the month.

Camellias should be arranged in the coolest part of the house; water sufficiently to thoroughly wet the roots.

Azaleas will require but little attention; water sparingly.

Chrysanthemums should be removed to the houses before hard frosts injure their buds; water liberally, using liquid manure occasionally.

Pelargoniums should be kept in a frame as long as the weather is good; if too cool and damp, remove to the house at once.

Cinerarias may be kept in frames all the month.

Monthly Carnations, planted out in beds, should be taken up and potted.

Ixias and Sparaxis should be potted this month.

Verbenas, for winter flowering, should be shifted for the last time this month.

Fuchsias, done blooming, may be placed under the stage, where they will keep well till spring.

Neapolitan Violets should be planted in frames this month.

Roses, in the open ground, may be taken up and potted.

Achimenes, done flowering, may have their tops cut off, and the pots placed away under the stage.

Plants of all kinds should be tied up, staked, top dressed and put in good order before removing to the house.

FLOWER GARDEN AND SHRUBBERY.

Notwithstanding the lateness of the season, the flower garden and ornamental grounds should have every attention. The walks will need another cleaning, and the lawn one or two mowings, the late heavy rains having given the grass a fresh growth. Keep all falling leaves swept up, and remove all frost-bitten plants.

Now is the time to make new plantations if they are wanted, or to add to older ones. Herbaceous perennials may also be transplanted with the best success. It is the season to plant spring flowering bulbs, lilies, &c.

Dahlia roots should be taken up and housed before severe frosts occur; but let them remain in the ground as long as the weather is fine.

Gladioluses may be taken up this month.

Lilies of all kinds may be planted this month.

Tulips, Hyacinth and other bulbs may be planted.

Pæonies should be transplanted this month.

Daisies may be transplanted to frames, where they can be slightly protected during winter.

Orange Globe roots, if taken up and stored in boxes, may be planted out again next spring.

Madeira Vine roots should be taken up before hard frosts.

Pansies, divided and reset, will make fine plants for early bloom in the spring.

Shrubs of all kinds may be transplanted as soon as the leaves fall.

IMPROVING SUBURBAN RESIDENCES.

As the season of the year is at hand when operations may be commenced for planting ornamental trees and shrubs, we propose to offer a few hints in regard to the improvement of suburban residences, with the hope that they may aid in giving increased attention to rural art.

Few complete and thoroughly made gardens or grounds are to be found. We see everywhere, in the rapid increase of wealth and population in our suburban towns, fine buildings, erected almost by magic, in the highest style of architectural art, and finished without regard to expense. These costly dwellings, as well as those of more humble pretensions, meet our eyes in every direction, and would command our highest admiration but for one great defect; they are wanting in the elegant surroundings which should belong to every suburban residence; the lawn, the ornamental grounds, the fruit garden, or even the little parterre have been entirely neglected, and they stand bleak and alone, an ostentatious display of wealth without taste, on the one hand, or the appearance of a depleted purse without the means of doing anything more, on the other.

We do not intend to be understood that this is generally the case. By no means. There are too many evidences to the contrary, abounding everywhere, to assert this. Yet we think it must be admitted, even by those who would give our countrymen every allowance for their love of rural life which they can well claim, that it is quite too common, and should not be in a country with a climate and soil so favorable to the growth of every forest tree, shrub, and plant. We can name one locality, in the immediate vicinity of Boston, where thousands of dollars have been expended in the erection of the finest dwellings, and yet scarcely a tree or shrub has been planted, or anything done, save making the avenues and walks, to beautify the several enclosures,

which would distinguish them from the surrounding fields and pastures. There are other places, no doubt, familiar to our readers, which need the fostering hand of taste to give them that rural aspect or picturesque expression which is the real charm of a suburban home.

Throughout the Western States there is room for great improvement in every class of country or farm dwellings. The timberless prairies offer free scope for the blasting winds to sweep across them, and nothing appeared to us more desolate than the small but neat houses, standing solitary and alone, without so much as a single tree on the vast expanse of broad prairie almost as far as the eye could reach. At what slight expense and in how little time could this be altered, simply by the planting of a dozen trees, or even by the sowing of a handful of seeds; for in that rich soil everything grows with great rapidity, and there can be little excuse for neglecting the work. Shelter from the wind and shade from the sun are two of the most important objects in ornamental plantations.

There are two reasons why there has been such neglect of tree planting and embellishment of our rural homes. One is, that the expense is too great; and as no provision has been made for this, or the subject scarcely thought of, in the erection of the house, the grounds are overlooked and allowed to remain as they were. Another reason is, that the want of a proper knowledge of the preparation of the ground leads to disappointment in the growth of the trees, and the good work, even when once commenced, is frequently abandoned for want of that information which, if first obtained, would have led to the most successful results. A want of taste for anything picturesque or ornamental undoubtedly prevents, occasionally, the improvement of any place, but these cases are rare, and are rather the exception to the rule. It is, in fact, ignorance of the means of accomplishing all that may be so easily done which is the bane of rural advancement.

Autumn is the season for commencing this good work: less hurried than the spring, though perhaps not so exciting a period,—when the falling leaves around us teach a lesson of

decay rather than of renewed life,—it is yet the time when more can be accomplished than at any other season. Let the ground, when planting is contemplated, be well and thoroughly prepared, either by subsoiling, if on a large scale, or by trenching if smaller. Let it be well drained, for a damp situation is destructive to most trees. Make your selection of trees with a due regard to the locality, whether high or low, wet or dry, exposed or sheltered. Let them be of moderate size. Do not omit to enrich the soil. Plant carefully, and fail not to afford due protection to the roots the first season.

If the work is set about with a determination to do it thoroughly, without regard to cost,—and it is of no use to proceed in any other way,—the result will show that you have not labored in vain, but have accomplished that which will be a life-long source of enjoyment and delight.

THE LITERATURE OF GARDENING.

BY WILSON FLAGG.

No. IX. Works of Rev. William Gilpin.

It would be impossible, in the course of an essay of seven or eight pages, to do justice to so voluminous a writer on Landscape as the Rev. Wm. Gilpin. We shall only attempt to present the reader with a general specimen of his views, which were written without reference to the practical art of landscape gardening, but chiefly for the entertainment and instruction of men of taste, and amateurs in the art of painting. He thinks that in the variety of its picturesque beauties, England exceeds most other countries, though in other particular species of landscape it may probably be excelled. Switzerland may exceed it in the beauty of its valleys, Germany in its river views, and Italy in its lake scenes. But England exhibits more variety of hill, and dale, and level ground than is anywhere to be seen on so small a compass. Its rivers assume every character,—diffusive, winding, and

rapid. Its estuaries and coast views are varied, from the form and rockiness of its shores; and in variety, he thinks the English lake scenery equal to that of any country.

One of the peculiar features of English landscape arises from the intermixture of wood and cultivation; while in France, Spain, and Italy, cultivation and wood have their separate limits. Trees grow in detached woods; and cultivation occupies vast, unbounded common fields. I have observed a similar difference between the landscape of New England and that of the Southern States. In England, our author remarks, the custom of dividing property by hedges, and of planting hedge-rows, so universally prevails that almost wherever you have cultivation, there also you have wood. On a near view, the marks of the spade and the plough, the hedge and the ditch, together with all the formalities of hedge-row trees and square divisions of property, are displeasing: but where all these regular forms are softened by distance; where hedge-row trees begin to unite, and lengthen into streaks along the horizon; where farm-houses and ordinary buildings lose all their vulgarity of shape, and the whole mass is blended together, it adds great beauty to the landscape. Thus, English landscape furnishes a species of "rich distance," which is rarely to be found in any other country. Another of its peculiar features arises from the great quantity of the English oak with which it abounds; nor does any tree answer all the purposes of scenery so well. The oak is the noblest ornament of a foreground, spreading from side to side its tortuous branches and foliage of fine tint in autumn, and verdure in summer. In a distance, also, it appears with equal advantage, forming the most beautiful clumps, varied more in shape and perhaps more in color than the clumps of any other tree. The pine of Italy has its beauty, hanging over the broken pediment of some ruined temple. The elm, the ash, and the beech have all their respective beauties; but no tree of the forest is adapted to all the purposes of landscape like the English oak.

The author speaks also of the embellished garden and the park scene, as among the peculiar features of English land-

scape. In other countries the environs of great houses are yet under the direction of formality. The wonder-working hand of art, with its regular cascades, spouting fountains, flights of terraces, and other achievements, has still possession of the gardens of kings and princes. In England alone the pure model of nature is adopted. This is a mode of scenery entirely of the sylvan kind. As we seek among the wild works of nature for the sublime, we seek here for the beautiful; and when there is a variety of lawn, wood and water, and these naturally combined, and not too much decorated with buildings, nor disgraced by fantastic ornaments, we find a species of landscape which no country but England can display to such perfection; not only because this just taste in decoration prevails no where else, but also because no where else are found such proper materials. The want of English oak can never be made up in this kind of landscape by any substitute; neither do we anywhere else find so close and rich a verdure. An easy swell may everywhere be given to the ground, but it cannot everywhere be covered with a velvet turf, which constitutes one great beauty of the embellished lawn.

The vapors of the English climate undoubtedly produce the deep verdure of its lawns. They give origin also to another peculiar feature in English landscape, a certain obscurity which is thrown over distance. Those mists and vapors that settle near the ground at night, are dispersed with the morning sun. All these appearances however, which the author regards as peculiar to the climate of Great Britain, are frequently observed in our own dry and bright climate. His remarks on this subject are interesting, and we will present them with but little abridgment. He reduces the several degrees of obscurity which the heaviness of the atmosphere gives to landscape to three—*haziness*, *mists*, and *fogs*.

Haziness just adds that light, gray tint—that thin, dubious veil—which is often beautifully spread over landscape. It hides nothing. It only sweetens the hues of nature; gives a consequence to every common object, by giving it a more indistinct form; corrects the glare of colors; softens the

harshness of lines; and, above all, it throws over the face of landscape that harmonizing tint which blends the whole into unity and repose.

Mist spreads still more obscurity over the face of nature. As haziness softens and adds a beauty perhaps to the most correct forms of landscape, mist is adapted to those landscapes in which there is much to hide; to soften more, and to throw many parts into a greater distance than they naturally occupy. He thinks that even the fog is not without its beauty in landscape, especially in mountain scenes. But these phenomena are not available to the improver of real landscape; they can only serve the purposes of the painter, who can use them as he sees fit.

Mr. Gilpin remarks that no one can describe a country properly unless he has seen it in various lights. He who should see any one scene as it is differently affected by a lowering sky or a bright one, might probably see two very different landscapes. He might not only see distances blotted out or splendidly exhibited, but he might even see variations produced in the objects themselves; and that merely from the different times of the day in which they were examined. The summit of a mountain, for instance, which in a morning appears round, may discover, when enlightened by an evening ray, a double top. Rocks and woods take different shapes from the different directions of light, while the hues and tints of objects are continually changing. Nay, we sometimes see, in a mountainous country especially, a variation of light alter the whole disposition of a landscape. In a warm sunshine the purple hills may skirt the horizon, and appear broken into numberless pleasing forms; but under a sullen sky, a total change may be produced: the distant mountains and all their beautiful projections may disappear, and their places be occupied by a dead flat. These local variations cannot be too much attended to by all lovers of landscape.

The author speaks of changes which time as well as weather produces in scenery. Even the wild features of nature suffer continual change from various causes,—inclosures, canals, quarries, buildings, and, above all, from the growth or

destruction of timber. And if the wild scenes of nature suffer change, how much more may we expect to observe it in the improvement of particular places, which are professedly altering with the taste or fancy of their owners. Few of these scenes continue long the same. The growth of trees and shrubs is continually making changes in them, even in the natural course. Thirteen or fourteen years bring a shrub to perfection. After that period, if the knife be not freely used, a shrubbery, from mere natural causes, will of itself decay.

There were in the author's time two methods of cutting timber, one of which prevailed in the north of England, which he pronounces a barbarous method, consisting of cutting down the whole growth with a clean sweep. In the south of England, the proprietor sends an experienced surveyor into his woods, who marks such timber as is fit for the axe, leaving all the young thriving trees behind. The wood, therefore, if fenced, soon rears again its ancient honors, and becomes a perennial nursery. In the north, the merchant agrees for the wood altogether as it stands, and the proprietor, for the sake of a present advantage, suffers him to lay the whole flat. Nothing but a copse springs up in its room, and all succession of timber is prevented. This has operated, among other causes, in the general destruction of timber in the northern counties.

With regard to the combination of nature and art, he says, the grand natural scene will always appear so superior to the embellished, artificial one, that the picturesque eye, in contemplating the former, will be too apt to look contemptuously on the latter. This is just as arrogant as to despise a propriety because it cannot be classed with a cardinal virtue. Each mode of scenery has its station. A wild forest scene, contiguous to a noble mansion, would be just as absurd as an embellished one in the midst of a forest. A house is an artificial object, and the scenery around it must in some degree partake of art. Propriety requires it; convenience demands it. But if it partake of art as allied to the mansion, it must partake of nature as allied to the country. It has therefore

two characters to support, and may be considered as the connecting thread between the regularity of the house and the freedom of the natural scene. These two characters it should ever keep in view.

Under this regulation the business of the embellished scene is to make everything convenient and comfortable around the house; to remove offensive objects, and to add a pleasing foreground to the distance. If there be no distance, it must depend the more on its own beauties. But still, in every circumstance, it must observe its double character, and discover as much of the simplicity of nature as is consistent with its artificial alliance. If the scene be large, it throws off art by degrees, the more it recedes from the mansion and approaches the country.

Though the embellished scene is not sufficiently marked with the bold, free characters of nature to be purely picturesque, it is still, under proper regulations, a very beautiful species of landscape. The author calls the embellished scene one of the peculiar features of English landscape; but he laments that this beautiful mode of composition is oftener *aimed at* than *attained*. Its double alliance with art and nature is rarely observed with perfect impartiality. Ambitious ornaments generally take the lead, and nature is left behind. Where little improprieties offend, they are readily passed over; but where the offence against nature becomes capital, it is not easy to repress indignation.

The writer classes also the ruins of abbeys among the peculiarities of English landscape. Ruins are commonly divided into two kinds, castles and abbeys. The feudal system, which lasted long in England, raised numerous castles in every part. Many of these buildings, now fallen into decay, remain objects of great beauty. If in the ruins of castles other countries compare with England, few can equal it in the remains of abbeys, because in that country they are ruins, while in Popish countries they are entire and inhabited. Abbeys formerly abounded so much in England that a delicious valley could scarcely be found, in which one of them was not stationed. The very sites of these ancient edifices

are now obliterated by the plough; yet still so many elegant ruins of this kind are left, that they may be called not only one of the peculiar features of English landscape, but may be ranked also among its most picturesque beauties.

With regard to architectural styles and ornaments, Mr. Gilpin thinks we may be too much bigoted to Greek and Roman architecture. A slavish imitation of many of its ornaments may be carried into absurdity. We are fettered also too much by orders and proportions. The ancients themselves paid no such close attention to them. Our modern code was collected by average calculations from their works. But if the modern legislators of the art had been obliged to produce precedents, they could not have found any two buildings, among the remains of ancient Rome, which were exactly of the same proportions. Though it may be difficult to please in any other form of architecture than what we see in daily use, yet in an art which has not nature for its model the mind recoils with disdain at the idea of an exclusive system. The Greeks did not imagine that when they had invented a good thing, the faculty was exhausted and incapable of producing another. Where should we have admired, at this day, the beauty of the Ionic order, if, after the Doric had been invented, it had been considered the *ne plus ultra* of art, and every deviation from its proportions reprobated as barbarous innovations? These remarks of the author seem to me to be just, for the reasons were never yet rendered intelligible to my mind, why there should be only five orders of architecture, or why we might not with just as much propriety reduce the classification of trees to five genera.

No man has given the public a more interesting picturesque treatise on Forest Trees than the Rev. Wm. Gilpin; but it would be idle to attempt to convey to the reader any idea of it by a few extracts. The foregoing remarks are abridged chiefly from his works on English Landscape. The work known as *Gilpin's Landscape Gardening*, was written by W. S. Gilpin, a nephew of our author.

PEARS ON THE QUINCE.

BY L. B. B.

Allow me to send you a few remarks suggested by our late conversation about the question of dwarf pear trees. I do not intend them for publication, but you are at perfect liberty to make such use of these suggestions as you deem proper. I do not wish to enter into a polemic with some gentlemen, whom I esteem much in all other respects, but whose opinion I can neither admit nor allow to pass unheeded. This is the land of free discussion, at least in *our* pursuits, and I hope nobody will take offence at my taking up the cause of the useful and much abused quince.

A gentleman, among others, after stating some experiments in which *some* of his quince trees succeeded very well, *others* not, accounts for the opposite and contradictory result by considering the Cydonia or quince tree unfit for our climate, being a native of Japan. If that is true, why did more than one half of his dwarf trees, though, as he states himself, badly managed and neglected in former years, bring him such handsome profits as nearly a thousand dollars a year? With his permission, this resembles much abusing your cow for the milk she gives.

Before writing his article, I wish that learned gentleman had taken the trouble to ascertain, 1st. Whether all his quince-grafted trees were on the same stock, the Angers or Orleans, the only ones now in use in our nurseries; 2d. Whether all were planted according to the rule prevailing in Europe, so as to have the bud from two to four inches below the level surface of the soil; 3d. Whether all were pruned in the same way, and planted with the same care.

To the first question he gives the reply, by stating that the two different lots were obtained from two different nurseries. Can we not surmise that the unsuccessful trees were on the *new* indigenous quince, and the thriving trees on the improved or Angers?

But to the main point. If the Cydonia or quince is unfitted for our climate because all the way from Japan, why do

quinces, as trees, succeed so perfectly well that I could name persons all around here, and no doubt Mr. Editor you could do the same in your vicinity, who yearly reap handsome profits from their Japanese friends? I know a gentleman in Connecticut who has five quince trees in a small garden, and who clears most every year, besides the supply of his family, from twelve to eighteen dollars. What *native* would pay better?

Certainly indigenous trees are more hardy in general, although we see the button-ball dying out, and actually the hickories on our mountains showing signs of decay. But imported or naturalized trees are not less hardy. The cherry the peach, the apricot, have been *imported* by Lucullus, from Persia, on the *staff*(?) of his banners. The lilac, the Paulonia, the ailanthus, the Norway spruce, and some hundreds of exotic trees or shrubs, are now the ornaments of our gardens, squares and cemeteries. The pear tree itself is not a native of this continent, and has been imported, as the quince, from climates where more moisture prevails, and atmospheric conditions are different. I have no leisure to consult Michaux or others, but I doubt if the most useful tree in the world, the apple tree, is not an *exotic* in our middle and southern States. We have the *crab* in northern latitudes, a good grafting stock, but perhaps different from the European standard. Take away what is *imported* from climates and countries widely different from our climate and soil, and you rob us of many of those fine trees and shrubs which adorn our private and public grounds.

The argument brought against that poor abused quince, so useful and paying so handsomely, would have been taken back, I believe, by its author, if he had considered not only the fitness of foreign plants to adapt themselves to our climatic conditions, but the hardiness of the quince tree itself. In those very moist climates, as Belgium and northern France, they were all frozen in 1838; ten or fifteen below zero, which rarely occurs there, kills every quince in Belgium. That same low temperature seems to have no influence here, for, after the last terrible winter, quinces look well and bear

profusely. Indeed, few foreign trees are doing better in New Jersey, and said gentleman can see from his grounds lots of over half secular quince trees yielding every year handsome profits. So much for the acclimation of the poor Cydonia.

Let the quince stock be abused, we shall do as the philosopher of Greece; when Pythagoras denied *motion*, Zeno went *walking*. Let the quince be slandered, it will remain one of our best friends. Your profits in fruit raising are mostly derived from *quince stock*. The best fruits of your splendid exhibitions are from the *quince stock*. Mr. M. P. Wilder's best trees and best fruits are on the *quince stock:* so are Messrs. Ch. Downing's, Ellwanger & Barry's, Dr. Grant's, Mr. Reid's, and my own.

Let gentlemen botanists have their own way in stating contradictory experiments, based upon improper or bad management, drawing from these unsatisfactory conclusions. "On we shall go;" and, by a judicious selection of varieties and proper cultivation, (for it is folly to expect luscious fruits from neglected trees,) we shall fill our shelves and walk among our well shaped, healthy pyramids with a blessing for the unknown genius who first tried the quince as a stock for the pear, and made really, in the pear cultivation, the same revolution as steam has done for our travelling.

A more satisfactory answer to the tirade of nonsense which is going the rounds of the papers in reference to the cultivation of "dwarf pears," viz., the pear upon the quince, could not well be given. It is to the point, and coming as it does from one who is amply able, after many years of observation in France and Belgium, where the pear has so long been cultivated, as well as in our own country, to give an opinion, will have the influence to which its sound common sense duly entitles it.

It is one of the most serious drawbacks to all progress in horticultural art, especially in our country, that so much empiricism is mixed up with a thorough scientific knowledge of cultivation; that those who do not know the first principles of a science should attempt to teach those who have made it

a life-long study. It is from this fact that such contradictory statements are constantly made, which mystify the new beginner, lead him astray, and force him to rely on his own experience, often dearly bought, and always with great loss of time. With so much apparent information before him, and without the necessary knowledge to enable him to decide where the truth lies, he adopts first one course of culture and then another, until at last, if his zeal holds out, he finds at his cost that he has been following the visionary notions of some fancy theorist, rather than the true principles of horticultural science.

This attempt to write down the quince stock is a sample of a thousand similar attempts in the literature of gardening to assail some of the soundest principles of physiological science, and practical art; and it will end, as all similar attempts have, in more thoroughly convincing those who resort to the proper sources of information how egregiously they have been deceived in following the notions of those who write well enough, or criticize wonderfully wise, but whose practice is as barren as some of the ideas which they attempt to advance.

It is not really, at this late day, worth while to waste time and paper to attempt to controvert such statements as our correspondent briefly reviews in his excellent article: at least we have not thought so. Those who can be induced to believe them must know but very little of the experience of the past, or be sadly deficient in that knowledge which every one must possess to become a successful cultivator.

We are ready to admit that the quince has been brought into unjust repute by the practice of some inexperienced nurserymen, who recommend many varieties which *will not succeed* upon that stock; but this is the exception to the rule, and is acknowledged by all who fully appreciate its usefulness.

In conclusion we need only refer to an article in a previous volume, (XVII., p. 385,) upon the cultivation of the pear upon the quince stock, in which our views are fully expressed and satisfactory evidence adduced to show its very great value in the culture of this delicious fruit. Subsequent experience has more fully confirmed the opinions recorded in the volume referred to.—Ed.

THE REBECCA GRAPE.

BY THE EDITOR.

It is somewhat surprising that while we have so many choice varieties of the pear, apple, plum, peach and other fruits, the spontaneous productions of our gardens and orchards, so little amelioration should have taken place in our native grapes. For more than thirty years the only kinds really worthy of being enumerated among the eatable sorts were the Isabella and Catawba, and both of them unsuited to the northern section of the country. It seemed to be admitted, by general consent, that the Fox grape, so called, of our woods, would admit of no improvement, and that to have good grapes at all we must grow the foreign varieties under glass. This at least appeared to be the destiny of our native grape till Mr. Bull, from the wild vine of our pastures, produced the delicious Concord, and proved conclusively that it was as susceptible of improvement as any other of our fruits. His success has induced others to follow his example, and at the present time there are thousands of seedling grapes under cultivation, from which, we doubt not, many valuable varieties will be obtained.

Every fine hardy grape is a most welcome addition to our limited stock. The Diana was one, the Concord another, and the grape we are now about to notice is a third. Others there are which already promise much, and some which nearly or quite equal those we have named. We shall describe them all as soon as their real merits are well established.

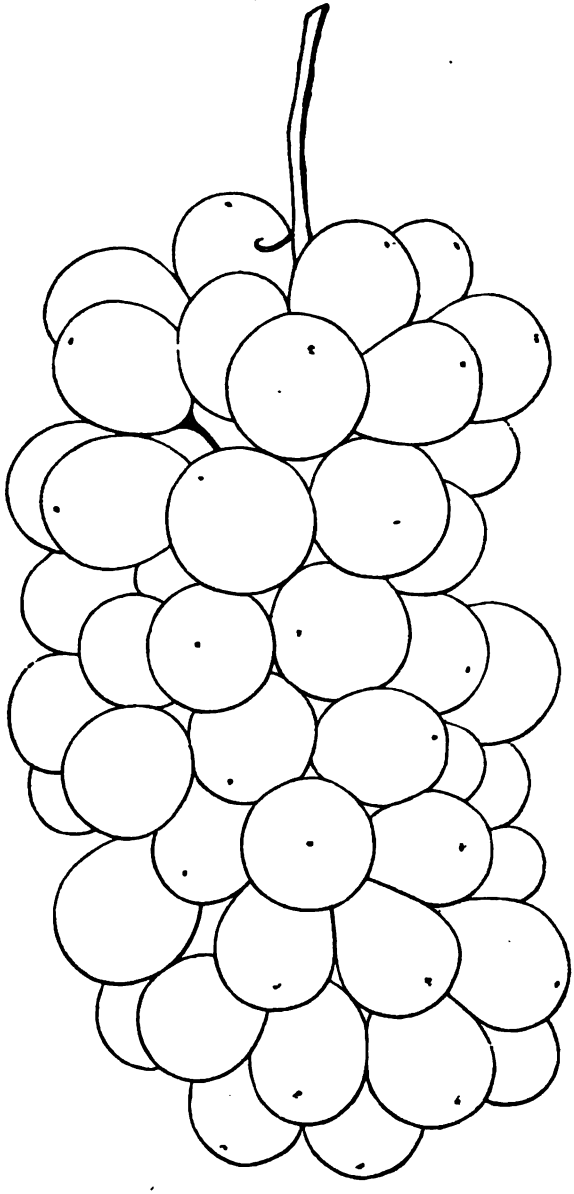
The Rebecca grape is undoubtedly of native origin, although nothing positive is known regarding this. But it bears the unmistakable evidence of its nativity in the coarseness of its leaf, its downy surface beneath, the hardiness of the vine, and the very perceptible aroma of its skin. Indeed, upon a careful examination we see nothing to induce us to believe it has any admixture of the foreign vine; and it appears no greater a departure from some of the better native white grapes than the Concord does from the black. We have

been familiar with the fruit for three years, and do not hesitate to pronounce it one of the most valuable acquisitions yet made. Recently we visited its native locality at Hudson, N. Y., examined the original vine, and learned all that is known of its origin from the individual in whose garden it sprung up from seed. This history is as follows:—

The Rebecca originated in the garden of Mr. E. M. Peake, Hudson, N. Y., about eight years ago. Mr. Peake's garden is in one of the thickly settled streets of the city, and nearly the usual size of a lot, perhaps 100 by 150 feet deep. Between the house and the street there is a small flower garden. It was here that the original vine grew. Mrs. Peake was about making some alterations in her flower beds, and this vine being in the way, her gardener advised her to dig it up, as it was only an "old wild grape." But disliking to destroy it, she removed it, as she informed us, with her own hands, and planted it very carelessly in the garden back of the house, in a very poor and cold clay soil. Here the vine made slow progress, but continued to increase in size until the third or fourth year, when it produced a few clusters of small white grapes. These appeared to possess so much merit and were so much better than had been expected, that pains were then taken to feed and nourish it, and prune it into shape, and it soon well repaid all the labor bestowed upon it. It grew vigorously, making shoots ten or fifteen feet long, and bore abundant crops of the most delicious grapes, until at the present time it has reached the top of the house, and covers a trellis ten feet wide and twenty-five feet high, loaded with fruit. Such is the history of the Rebecca.

Hudson is a cold and rather bleak place, thirty miles from Albany, situated on the banks of the Hudson River, nearly two hundred feet above its surface. The soil is a stiff loam on a gravelly subsoil, and well adapted to the growth of the grape. The Isabella ripens here in good perfection, undoubtedly owing to the elevated situation and the porous character of the subsoil. In Mr. Peake's garden the Isabella, Catawba, Sweetwater, and Rebecca were all in fruit, thus showing the comparative habit, growth, and time of ripening of each va-

riety. Two young vines of the Rebecca, planted three years ago and trained to an upright trellis, had each one hundred



26. THE REBECCA GRAPE.

clusters of fruit upon them. The grapes were fully ripe Sept. 28th, at which time they were shown at the annual exhibition of the Massachusetts Horticultural Society. At the time of our visit to Hudson, Sept. 25th, they were in fine perfection, and we have clusters before us now, gathered two weeks, which retain all their freshness and excellence.

BUNCHES, medium size, about six inches long, very compact, without shoulders: BERRIES, medium size, obovate, about three quarters of an inch in diameter: SKIN, thin, greenish white, becoming of a pale amber color at full maturity, covered with a thin white bloom: FLESH, very juicy, soft, and melting, and free from pulp: FLAVOR, rich, sugary, vinous and brisk, with a peculiar musky and luscious aroma, distinct from any other grape: SEEDS, small, two to four in each berry.

LEAVES, scarcely of medium size, about seven inches long and seven in width, very deeply lobed, and coarsely and sharply serrated; upper surface light green, slightly rough; under surface covered with a thin whitish down; nerves prominent: PETIOLES, rather slender.

The addition of a few more grapes of such excellence as the Rebecca (FIG. 26) would nearly or quite obviate the necessity of constructing houses for the growth of the foreign kinds, for we consider it far superior to the Sweetwater, so long the standard of a fine variety. To our taste there are few foreign grapes we should prefer to the Rebecca.

POMOLOGICAL GOSSIP.

SEEDLESS PEAR.—During our recent visit to Philadelphia, to attend the Exhibition of the National Agricultural Society, our friend Dr. Brinklé showed us some specimens of a seedless pear. It was first noticed in the market of that city, and traced to an old tree growing in the garden of Samuel Davis, of Haverford, Pa. The fruit is of small size, with a russety skin, and somewhat resembles the Seckel. The flesh

is melting and juicy, and the flavor rich and good. Every pear is entirely seedless. If the fruit, under good cultivation, would attain to a medium size, it might well claim the attention of cultivators: independent of its remarkable quality of having no seeds, its general merits are sufficient to render it an acquisition to our collections.

THE OHIO NONPAREIL APPLE.—It will be recollected that in a notice of this apple in a previous number, (p. 85,) by our correspondent Dr. Kirtland, we remarked that the description answered very well for the Cogswell. Upon this suggestion Mr. Bateham, of Columbus, Ohio, published some remarks in the *Ohio Farmer*, in which he gave some account of its history, so far as it could be traced, and from all he could learn it appeared that the two were identical. This called out Mr. Elliott, who described the Nonpareil in his Fruit Book, and he asserted, in a long article, that the two were quite distinct, and gave outlines of the apples to confirm his opinion. At that time we intended to discuss the matter further, and show by his own illustrations that he was in error. But our remarks were crowded out, and the subject escaped our attention until the recent exhibition in Philadelphia, where two lots of the Nonpareil were exhibited by Pennsylvania cultivators. We were highly gratified to meet with these specimens, as it at once enabled us to clear up all doubts in regard to its identity. We write now with the specimens before us, which prove to be nothing but the Cogswell, as described in our Magazine several years ago, and figured in the second volume of the *Fruits of America*. It was carried from Connecticut by Col. Cogswell's sons, upwards of thirty years ago, and has been extensively disseminated and cultivated in Ohio. A few years ago it was brought forward as a new seedling and named Myers' Nonpareil, and more recently Ohio Nonpareil. It is only another instance of the confusion existing in the nomenclature of apples, especially at the West, where so many of their supposed seedlings have proved to be old Eastern varieties.

THE BLACK BARBAROSSA GRAPE.—Fine specimens of this new grape were recently exhibited at one of the weekly

meetings of the Massachusetts Horticultural Society, from R. S. Rogers, Esq., of Salem. There were two clusters which weighed respectively 3 lbs. 4½ oz. and 2 lbs. 9 oz. The bunches were of handsome shape, and the berries of large size, although not well colored or quite ripe. This was the first time this new grape has been exhibited here, and it fully maintains the reputation it has obtained in England, where it is considered one of the best late-keeping varieties in cultivation.

The Delaware Grape.—This new grape, which has attracted considerable attention, and which we gave a full account of in a late number, has fruited in the garden of Mr. E. A. Brackett, of Winchester, Mass. The grapes were fully mature Sept. 15th, thus proving it to be as early as the Concord. It promises to become a popular variety, and particularly adapted to our New England climate, being entirely hardy.

The Carter Grape.—This is the name which is given to a new variety cultivated in Milford, Mass., and recently shown at the annual exhibition of the Massachusetts Horticultural Society. It is a very fine grape, earlier than the Isabella, and superior to it in every quality. The berries are round, of large size, and of a deep reddish color, approaching to black at full maturity. What its origin is we do not know, but if it can be traced we shall give a full account of it at another time.

Georgia Pomological Society.—A Pomological Society has been organized in Georgia. The first meeting was held at Athens, Aug. 6th, when officers were elected for the year, and a very large quantity of fruit exhibited. Four hundred and thirty-five lots were shown, comprising over three hundred varieties. We are glad to see this interest in pomology manifested by the cultivators of the South. Possessing one of the finest climates in the world for the production of fruit, it is somewhat surprising that such an interest has not been apparent before. We hope now we may have the Southern apples, some of which are said to be fine, brought to notice, and such as are worthy of cultivation designated, and their qualities described.

THE ASH AND THE TUPELO.

BY WILSON FLAGG.

It is pleasing to note the changes that take place, from one season to another, in the relative beauty of different trees. The ash, for example, which is the subject of my present remarks, is, during the early part of October, one of the most beautiful trees of the forest, exceeded only by the maple in the beauty and variety of its tints. In summer, likewise, but few species surpass it in the character of its foliage, which is light and graceful, of a fine verdure, and of a medium density. It has a finely rounded head, neither so pyramidal as to give it a formal look, nor so broad as to take from that grace which is one of its characteristics when in leaf. But no sooner has the ash shed its leaves, than it takes a rank below many other trees, as it then exhibits a stiff, blunt, and ungraceful spray, and seems wanting in much of that elegance for which it is remarkable in summer and autumn.

The very opposite remarks are true of the elm, which has but little beauty in the latter part of summer and early autumn, on account of the early fading of its foliage, and its want of any remarkable beauty or variety of tints. Yet in winter, when all the deciduous trees are stripped of their leaves, no other tree will bear any comparison with the elm. Our attention is then particularly attracted to the remarkable fineness and elegance of its spray, its beautiful ramification, and the superb arches made by its curved and drooping branches. It is no less attractive in early summer, when it has just fully put forth its leaves: it then as greatly surpasses the ash in beauty as it is surpassed by the ash in early autumn.

The ash is remarkable for the trimness and regularity of its growth, and it is seldom seen with any of those breaks in its foliage which are so conspicuous in the oak and the hickory. Its trunk rises to a more than average height before it is subdivided, but its subdivisions are always complete. Lateral branches seldom proceed from the shaft, save, perhaps, as I

have sometimes observed, a sort of bushy growth of suckers surrounding it, a little below the angles of the principal branches. The ash is called in Europe the "painter's tree;" and it would seem, from this fact, that not under all circumstances must a tree be ugly or ill-shapen to suit the picturesque eye of the great masters of the brush and the canvas.

The ash is found in all parts of the United States, and is probably more abundant in North America than in any other part of the globe. In the forest it rises to a great height, but is, I believe, seldom of a very large diameter. There are only three species which are common in Massachusetts; these are the white, the red, and the black ash. The first is the most common and the most valuable, being, in the qualities of its timber, second only to the oak. All the species have pinnate and opposite leaves, and opposite branches on all the new growth. As the tree increases in size, one of the branches invariably becomes abortive, so that we perceive this opposite character of the branches only in the spray. The leaves are commonly in sevens, and not so large nor so unequal as those of the hickory, though bearing considerable resemblance to them. Most of the trees are dicœcious; and so different an appearance do the male and female trees assume, when in blossom or in fruit, that they are commonly mistaken for different species.

The white and the red ash are so nearly alike that one must be very familiar with their marks of difference to be able to distinguish them. I believe they do not differ in their general form and appearance, nor in their autumnal tints. The distinction, however, is important on account of the inferior value of the timber of the red ash. The black ash may be readily identified by its leaves, which are sessile and resembling those of the elder, by the dark bluish color of its buds and newly-formed branches, and the slenderness of its proportions. It seldom attains any great breadth or altitude, and is chiefly confined to swamps and muddy soils. Its wood is remarkable for its strength and elasticity.

But the most important species, on every account, is the white ash. It equals the European ash in size and height,

and in the quality of its timber, and surpasses it in its autumnal tints. The latter, however, retains its leaves and verdure a week or ten days longer in the autumn, and by this circumstance the two species may be distinguished. According to Gilpin, the European ash, like our own, is comparatively early in shedding its leaves. "Its leaf," remarks this author, "is much tenderer than that of the oak, and sooner receives impression from the winds and frost. Instead of contributing its tint, therefore, in the wane of the year, among the many-colored offspring of the woods, it shrinks from the blast, drops its leaf, and, in each scene where it predominates, leaves wide blanks of desolated boughs, amidst foliage yet fresh and verdant. Before its decay, we sometimes see its leaf tinged with a fine yellow, well contrasted with the neighboring greens. But this is one of nature's casual beauties. Much oftener its leaf decays, in a dark, muddy, unpleasing tint."

The American white ash, on the contrary, as I have already remarked, is conspicuous for the beauty of its autumnal tints, which are very peculiar—not brilliant, like those of the maple and the tupelo, but equalling the former in variety, and assuming shades which are very infrequent in the other trees of the forest. The tints of the ash vary from a dark greenish purple, through several shades of olive and brown, to a sort of mixed lilac and yellow. It would be difficult precisely to describe all these shades. They are compound tints, and seldom will two persons agree in calling them by the same name. They differ so entirely from those of other trees, that, by those who are accustomed to observe them, the ash trees, during the first part of October, may be distinguished for miles, all round the country, with more certainty than the maples, which at a distance might be confounded with the tupelo. Among the tints of the ash we never see the scarlet and crimson, or any of the reds, as in the maple we never see the olive-brown.

The ash is supposed to possess certain properties which are injurious to serpents, and it is a general belief that all this tribe of reptiles may, by a plantation of ash trees, be driven out of any locality. This belief is so general, that it is prob-

ably not without foundation. A decoction of the leaves is said to be an antidote to the poison occasioned by the bites and stings of insects, when the swelling is washed with it; and it would seem reasonable to make further experiments respecting its medical virtues, to ascertain whether they would be efficacious in curing the bites of venomous serpents or of rabid animals.

The Tupelo, *(Nyssa multiflora,)* has, I believe, no representative on the old continent, but it is, though not very well known, one of our most remarkable trees in a picturesque point of view. The swamp hornbeam is the name usually applied to it, on account of the toughness of its wood. It has also been called umbrella tree, from a peculiar habit of spreading out its branches into a flat top. It is most generally known among our country people as the wild pear tree, from a fancied resemblance to the general mode of growth and foliage of the pear, though it has no sort of botanical affinity with this tree. In the Middle and Southern States, it is the sour gum. The name of Tupelo, which is now by the general consent of botanists applied to it, was originally given to it by the aborigines.

The shapes assumed by this tree are exceedingly grotesque. It is sometimes quite erect, throwing out its branches horizontally and equally on all sides, but always forming a more or less flattened top. More frequently this tree has no regularity of shape, leaning over to one side, and often putting out a single branch greatly beyond all the others. The branches are commonly more or less twisted and gnarled, inclining downward from a horizontal position, not with a curve, like the branches of an elm, but forming an acute angle below where they join the trunk, like the lower boughs of a fir tree. Some of the swamp oaks greatly resemble the tupelo in their mode of growth and ramification; but the former have in general more symmetry, and never exhibit a flattened top. It is the twisted irregularity of the lower branches that constitutes the resemblance.

The foliage of the tupelo is remarkable for its fine glossy verdure, and for the brightness and uniformity of its hues.

In autumn it assumes the most brilliant of all coloring, though it exhibits but little variety in its tints. In the interior of the tree the leaves are of a bright yellow; outside, they are scarlet and crimson; but the general hue, when seen at a distance, is scarlet. They never fade into brown, like those of the ash and the walnut, before they fall to the ground, but invariably drop from the tree before they have lost their tints. The tupelo, the ash, and the maple receive the earliest coloring of all the forest trees, and commonly shed their leaves while the foliage of the oaks is still green, or but very slightly changed. The tupelo is one of the brightest ornaments of our forest during the early part of October. The fine verdure of its leaves recommends it in summer; and even in winter its grotesque forms, rising up out of the shallow meres, give a peculiar interest to these solitary places. It is not adapted to cultivated and dressed grounds, but harmonizes well with rude and romantic situations.

The tupelo is, therefore, the opposite of the ash, the one being precisely regular in its shape, the other eccentric and grotesque; the one delighting in uplands, the other in swamps. The leaves and small branches of the ash are opposite; those of the tupelo are alternate; the former has a coarse, the other a finely divided spray; and, on the whole, there are perhaps no two trees of the forest so entirely unlike. Where the tupelo has stood alone and sent forth its branches without restraint, it exhibits its most grotesque irregularities, for when crowded in the forest among other trees, it runs up straight and with but few branches. This tree is exceedingly worthy of protection in its native habitats, being highly ornamental to rude scenery at all seasons of the year, and having insufficient value, as timber or as fuel, to make it for our interest to cut it down. Its wood is valuable for bowls and troughs, and for the naves of wheels, on account of its twisted fibres and its toughness, but it is almost worthless for common purposes.

THE ROSE.

BY PROF. CHAS. G. PAGE, WASHINGTON, D. C.

Deservedly at the head of all floriculture, excelling all flowers in its unceasing developments of novelties and beauties, the Rose is not only to be cherished for its fascinations, but is justly entitled to that which it has never yet received, viz., a systematic description of the varieties. This remark has no reference to the botany of the Rose, (of itself sufficiently vague,) but to the innumerable varieties resulting from cultivation, where botanical distinctions are either merged or lost. As a fashion, a passion, or a mania, the Rose, at the time of Nero's great rose banquet, stood preëminently high among flowers; but where was Devoniensis and Clemence Ruffin* when Cleopatra received her paramour upon a thousand dollars' worth of rose leaves, or when the tyrant of Rome regaled his courtiers with one hundred and fifty thousand dollars' worth at one sitting? There was but one idea, but one attribute, (if we may except the peculiar softness and coolness of rose petals,) impelling these luxurious nobles into such inordinate extravagance, and that was the tempting odor of the rose. It is this which has given for centuries the commercial value to the rose, for the manufacture of the ottar and rose water, and for an ornament to the garden; but for twenty years past, the commercial value of the rose has gone up in another scale. The great traffic now is not in roses, but in varieties of roses, and it is important that some rules of trade should be adopted; and first among these I would suggest some standard and definite mode of describing roses, so as to convey to all at once the true character of the rose. Those who purchase roses by catalogue are constantly disappointed in the color and form, fulness and size of roses. We can hardly find two florists or rose cultivators agreeing in their description of the color and fulness of roses. Take Devouiensis for an example. Paul says its "color is creamy

* Clemence Ruffin is called by Paul a Bourbon Perpetual. It is between the Bourbon and Remontant, partaking more of the latter, and always in bloom while in a growing condition. It is the most delicious of fragrant roses.

white; centre sometimes buff, sometimes yellowish." Rivers says, "it is not yellow, as was first supposed, but it is of a fine creamy white." Parsons says it is a "fine creamy white, tinted with rose." Buist says it was first represented as being "a fine sulphur yellow, and figured as such, but it proves to be a creamy white, and when just open in cloudy weather, of a canary color." Another florist calls it blush; another, incarnate, and so on, until it becomes like "Joseph's coat." Take another example. Neither of the above high authorities gives us a correct idea of Tea Goubault. One calls it bright rose color, and another rosy blush inclining to yellow in the centre; while in fact its peculiar appearance and distinctive character is due to the decided difference in the color of the upper and under surfaces of the petals.

It is to be regretted that in floral as well as other descriptions we have no fixed nomenclature of colors. The primitive colors yellow and red are rarely met with in roses, and the blue has yet to be discovered. The various modifications of color used with so little discrimination in describing roses range themselves under general heads somewhat as follows:

Green.—The green rose, but one variety.

White.—Creamy, yellowish and blush white.

Blush.—Light, rosy, incarnate or flesh, lavender.

Flesh.—Blush, incarnate.

Yellow.—Sulphur, cream, straw, canary, orange, lemon, fawn, buff, saffron.

Pink.—Light, deep, rosy, blush, flesh, salmon, copper.

Red.—Light, deep, rosy, carmine, copper.

Violet.—Crimson, purple.

Scarlet.—Crimson.

Crimson.—Light, deep, violet, lilac, purplish, scarlet, carmine.

Purple.—Light, deep, rosy, bluish, crimson, violet.

Rose.—Pale, red, salmon, carmine, pink.

Lilac.—Rosy, crimson.

If we could select certain objects in nature of constant color with which to compare the choice roses, or if we should select a certain number of well known and established roses

as standards of color for comparison, we might dispense with much of the ambiguity and circumlocution now used in describing roses.

Another most fruitful and annoying source of error is the want of accuracy in defining the form and fulness of roses. One author describes a rose as "double," another "very double," and another "perfectly double." Another rose is said to be "full," "very full," and "perfectly full." A rose with five petals is single; with two sets or ten petals, double; and above this number there is no fixed character or rule of description, except under the general epithet, *full*, with its various qualifications. The appearance of fulness in a rose does not depend entirely upon the number of its petals, for the size and form of the petals and size of the rose must be taken into the account. For instance, Leveson Gower, though a large rose, appears to be full, with an average of only forty petals. The petals are all large and curled or turned over at top, so as to fill up the rose. La Reine, in good condition, averages eighty petals, some of which are very small; so that it does not appear to be very full. Souvenir de Malmaison, probably the fullest of all roses when well grown, will average two hundred petals, a great many of which are small or imperfectly formed. The number of petals averages the same in Bosanquet and Mad. Angelina; the former being the smaller appears the fuller of the two. With the exception of Sanguinea, the following have been described as "full roses:"—

	Minimum No. of Petals.	Maximum.
Sanguinea, ...	10	20
Bosanquet, ...	25	30
Mad. Angelina, . . .	28	30
Manteau de Jean d'Arc, .		33
Euphrosine, . . .	20	62
Leveson Gower, . . .	35	40
Nemesis, ...	20	46
La Reine, ...	70	90
Rivers' Large Crimson, .		75
Devoniensis, . . .		78

	Minimum No. of Petals.	Maximum.
Triomphe de La Duchese, .	90	95
Prince Albert, . . .	135	145
Leon des Combats, . .		155

To those familiar with the sizes and forms of these roses it will be evident that the number of petals alone will not convey the character of the rose. The conclusion I have arrived at, after weighing all points, is, that a good description of a rose should embrace the following particulars in the *form*: whether cupped, globular, expanded, loose, or compact; the diameter or breadth of the rose; the height or thickness of the rose, where practicable; the average number of petals,—their appearance, whether stiff and erect or turned over, and about what proportion of them are under size, or imperfectly formed. The odor of the rose: this is found to vary very much. Anisette has the odor of anise seed; White Microphylla, of the magnolia; Euphrosine, a tinge of jasmine; Devoniensis, a combination of sweets hard to describe; Julie de Fontenelle and Harrison, yellow, of violets; Clemence Ruffin, of ottar of roses, with an admixture of lemon; Luxembourg, Victoria Modeste, Ophir, Jaune Desprez, and some others, have a fruit-like ordor. The Musk Clusters are said to have the odor of musk, but this is too equivocal to be considered characteristic.

The character of the rose for persistence may also be important. Some roses endure but one day after blooming, and some continue in a good condition for a week. From the rapid increase in improved varieties and the great number in cultivation which must be yearly superseded, it is not improbable that rose growers will find it important and necessary to hold conventions occasionally for the purpose of systematizing the rose traffic, and, in fact, to regulate the whole business of rose culture.

Lovers of the rose will welcome this attempt of Prof. Page to systematize and simplify the descriptions of its beautiful flowers, which have heretofore been so barren and uncertain. We shall look with great interest to the continuation of his paper in another number.—Ed.

SUBURBAN VISITS.

Nursery of Wm. Reid, Elizabethtown, N. J.—On our return from a recent visit to Philadelphia, we improved the opportunity to call upon our correspondent Mr. Reid, of Elizabethtown, and look through his nursery. It was the first time we had been upon his grounds since he removed from his old place at Murray Hill, New York.

Mr. Reid's grounds comprise about forty acres, and are delightfully located near the town, about five minutes' walk from the Elizabethtown station on the New Jersey and Philadelphia Railroad; they are slightly elevated, just enough to allow a good drainage, and form nearly a square. It is about eight years since Mr. Reid took up his residence on the place, which he had purchased a year or two before and began to stock it with trees. It is now in the finest order, laid out in large squares, with turf walks, which are kept neatly edged and closely shaven. In the immediate vicinity of the house the grounds are beautifully arranged with a lawn of half an acre or so, grouped with some very fine specimens of rare trees; the whole is separated from the nursery by arborvitæ hedges, which are superb specimens of this valuable evergreen.

The objects which most interested us were Mr. Reid's evergreen trees, of which he has a good stock. We saw here neat specimens of Juníperus tamarscifolia, stricta, repens, ericoìdes, canadénsis, siberica, commùnis pendula, and flagelliformis. A Washingtònia gigántea, nearly three feet high. Thuja tartárica is a different variety from the one we have received from Leroy. The Deodars were sadly cut up here by the last winter, which was unusually severe, and many tall specimens were killed to the ground. It is doubtful whether this will ever be a satisfactory tree north of Philadelphia.

Weigèl*ia* amábilis we saw here in bloom, and we think it may be set down as an autumn-flowering species. Our own plants flowered all the autumn, but we thought it might be from the treatment of the plants, which were set out late. Its

blooming here shows that it is its true character and not accidental. It will be a most valuable acquisition.

Mr. Reid's collection of specimen pears is large and well grown, and contains several hundred trees on the quince and pear. The fruit was now all gathered, and the leaves had begun to fall. Those on the quince are planted rather nearer together than our own, but they are kept well cut in. Those on the pear have more space, and many of them are very large trees: we noticed a Beurré Giffart ten or twelve feet high, much more vigorous than we had ever seen it before.

The whole nursery stock was in the best condition, stout, stocky, and healthy, embracing a fine variety of ornamental trees and shrubs, among which we noticed magnolias, hollies, sassafras, deciduous cypress, viburnums, and other somewhat rare kinds. The stock of pears is very large and excellent.

RESIDENCE OF L. E. BERCKMANS, PLAINFIELD, N. Y.—In the pleasant and retired town of Plainfield, about a dozen miles from Elizabethtown, is situated the residence of Mr. Berckmans. The whole demesne comprises some 300 acres in farm, pasture, and woodland, a great part of it a perfect level, diversified with wood, with a high range of hills in the distance, whose massive vegetation had already begun to assume the glowing tints which give such splendor to our autumnal scenery.

Here in this quiet retreat, upon the outskirts of the village, buried amid the dense foliage of overhanging trees, stands the mansion of Mr. Berckmans, a place just suited to the retired habits and elegant leisure of the proprietor, who, a few years since, removed hither from Belgium, leaving his beautiful villa at Heyst-op-ten-burg, with all the attractions which taste, aided by wealth, had lavished upon it, to take up his abode amid the wild and uncultivated scenery of our own country, which he henceforward intended should be his home. Devoted, in Belgium, to the study of pomology as a recreation, and numbering among his personal friends Bivort and other eminent cultivators, as well as the late Van Mons, Esperin, and Bouvier, all distinguished for their efforts in raising new fruits, he has long been familiar with all the Bel-

gian pears, and now has in his possession thousands of the seedlings of Van Mons and Esperin, which passed into his hands after their death. These seedling trees he brought with him, and though many unfortunately did not survive a protracted voyage, those that remain are now finely established and give promise of a rich reward for all the time and labor which has been bestowed upon them. Besides these, Mr. Berckmans has thousands of seedlings of his own, as well as a great number of Dr. Brinklé's,—in all, perhaps, 10,000,—from which he hopes some valuable acquisitions may be obtained. But Mr. Berckmans does not expect unreasonable results. If even, out of all this number, half a dozen really excel anything we now have, he will feel amply repaid for all that he has done in the production of new pairs.

It is, we believe, but four years since Mr. Berckmans first began to plant his trees, and to make up his collection of varieties. His whole attention during this time has been given to the seedlings, in order to prevent the loss of a single tree, and much that would have been done has been neglected for them, until now, when they are all well established on good stocks, he can devote more time to their cultivation, and the proper means to bring them into bearing. They are planted in rows, thickly, in different parts of his grounds, which are mapped off in a book, and the trees catalogued in such a way that reference may be had to any lot with the greatest facility. It was a rich treat to accompany Mr. Berckmans among his trees, and note the character of the foliage and growth,—the promising looks of some, and the worthless aspect of others. We could have agreeably spent a whole day with him in this round of gratification, listening occasionally to some reminiscence of Van Mons or Esperen, as some particular tree would call up their memory. But our time was limited, and we could only take a hasty survey of the grounds, trusting to a more leisure opportunity to notice many of the new pears which his collection contains, and which have not yet fruited here.

Pomological science has a most devoted enthusiast in Mr. Berckmans. All the more modern Belgian pears are familiar

to him, and his knowledge will materially assist us in clearing up the confusion now existing in regard to several of the best varieties. We welcome him as a co-worker in the great cause, and are pleased to know our fair land has attractions enough to induce him to make it his future home.

Nursery of T. Hogg & Sons, Yorkville, N. Y.—The rapid growth of the great commercial city of our country is yearly converting all the old gardens, parks, and large enclosures within its limits into store and house lots. When we first visited New York, not many years ago, the old garden of Mr. Floy was below Union Park, Mr. Hogg's former nursery was in 28th street, and several others in the same vicinity. But Mr. Floy long ago removed to Harlem, and somewhat later, Mr. Hogg to Yorkville, then thought to be so far away that he might with safety locate for life. But the encroachments of the city spread faster and faster, and Mr. Hogg's premises are now being cut up and intersected by new streets, as his former grounds were ten or twelve years ago. Nothing stops the onward progress of improvement; a street about to be opened admits of no delay, and in August, with the trees in full leaf, Mr. Hogg had notice to remove all that interfered with the execution of the work. The process of levelling has begun on one side of his grounds, and the other side will be subjected to the same operation in the spring. In consequence of this, Mr. Hogg is making arrangements to transfer his nursery stock to such a distance from the city as will be beyond the reach of similar improvements for the future.

We found the stock of plants as usual in fine order, though but just removed to the houses, and not yet arranged for the winter: owing, however, to the late cool weather we saw but little in bloom. In the greenhouse, among other new things, we noticed several Azaleas, among which were Perry-*ana*, Criterion, Admiration, &c. In the stove, we noticed a new lot of orchids just received from Demarara, which we are glad to know are beginning to be better appreciated, and are more in demand. We are sure that if a fine collection is

once seen in bloom, no real lover of plants will be content to be without them.

In the open ground we observed the new and beautiful Double Spiræa (Reèves*iàna* plèno) in bloom, and a most exquisite thing it is, bearing neat umbels of little daisy-like, pure white flowers in profusion. A species of Styrax, believed to be S. glàbra has glossy foliage, and is a very fine hardy shrub. *C*órnus carolinànus is perfectly hardy here, as is also Aràlia japónica, which is a more desirable shrub than the old one. Lonícer*a* fragrantíssima new and pretty. Among the evergreens we saw Washingtòn*ia* gigántea, Podocárpus nubigèra, and several others, with a fine stock of the Funebral Cypress, which is in demand for the South, where it forms a most elegant tree, and perfectly adapted to that climate, growing with great rapidity. It is a great loss to lovers of evergreen trees in our region that so many of the new species are too tender for our climate.

We were glad to find this old establishment in the same flourishing condition we always found it under the care of the late Mr. Hogg, senior, who was always among the first to introduce new and beautiful plants.

FLORICULTURAL AND BOTANICAL NOTICES.

Mr. Thorburn's New Verbena.—We have long thought that some very beautiful varieties of verbena might be produced from the little cut-leaved trailing species, if some enthusiastic cultivator were to make the attempt, and we are glad to announce that Mr. Thorburn, to whom we are indebted for the introduction of several excellent verbenas, has succeeded in raising a very striking variety, with variegated flowers, distinct in color as well as in growth from any of the familiar kinds. We commend it to the notice of lovers of this beautiful tribe, and trust it is only the first of a numerous stock of fancy sorts, which will be decided acquisitions.

337. CALCEOLA'RIA VIOLA'CEA *Cav.* PALE-PURPLE CALCEOLARIA. (Scrophulariàceæ.) Chili.

A greenhouse plant; growing 2 feet high; with pale purple flowers; appearing in spring; increased by cuttings; grown in leaf mould and loam and sand. Bot. Mag., 1856, pl. 4929.

A very pretty plant, which we have before noticed, and which has been in American collections for some time, having flowered for two seasons. It has a neat and pretty upright habit, with delicate foliage; and a well-grown plant, covered with a profusion of its pale, purplish corols, forms a pleasing contrast with the brilliant yellow calceolarias so well known. It is easily grown, and flowers copiously in May and June. (*Bot. Mag.*, Aug.)

338. RI'BES SUBVE'STITUM *Hook.* GLANDULAR CALIFORNIAN GOOSEBERRY. (Grossulàriæ.) California.

A half hardy or hardy shrub; growing 2 feet high, with purple flowers, appearing in spring; increased by cuttings and layers; grown in good garden soil. Bot. Mag., 1856, pl. 4931.

A California species, first discovered by the naturalists of Capt. Beechy's expedition, but has recently been sent to Messrs. Veitch by Mr. Lobb. In England it proves quite hardy, and "is rather a striking plant from the size of the flowers, and deep purple colored calyx, with pale, erect petals, and the inverted stamens, which give a Fuchsia-like character to their flowers." With us it is doubtful if it would stand our cold winter of 42° latitude, though it will undoubtedly flourish south. It, however, deserves a trial, as it appears a very beautiful low shrub. (*Bot. Mag.*, Aug.)

339. METHO'NICA VIRE'SCENS *Lindl.* AFRICAN METHONICA. (Uvalàrieæ.) Africa.

A greenhouse bulb; growing 2 feet high: with yellow and scarlet flowers: appearing in autumn; increased by offsets; grown in peat, loam and sand. Bot. Mag., 1856, pl. 4938.

Methonica is the name under which the old and beautiful Gloriòsa is now known, and this is a new and more brilliant species, which has been introduced into some collections as the M. Plantii and M. Leopoldii. It blossoms at the same time as the supérba, and according to Dr. Hooker, the differences between the two are "very apparent and constant." "It possesses," he states, "in reality a brighter colored and

more brilliant flower than the much vaunted M. superba." It is a native of Senegal, Congo, and other places on the African coast.

The M. superba we saw very finely in flower at Mr. Hogg's, two weeks ago. It is a fine autumn-flowering plant, with a lily-like aspect, and a great addition to the conservatory in September. (*Bot. Mag.*, Sept.)

340. Sa'lvia porphyra'ta *Decaisne.* Bright Red-flowered Sage. (Labiateæ.) Texas. (?)

A greenhouse plant; growing one foot high; with deep red flowers; appearing all summer; increased by cuttings; grown in good rich loam. Bot. Mag., 1856, pl. 4939.

A very neat and pretty species, which we have had in bloom all summer, and have before noticed in our pages. It is very dwarf in habit, with a neat foliage, resembling that of the common ground Ivy, and it flowers profusely all summer. For bedding out it proves one of the best of all the Salvias. (*Bot. Mag.*, Sept.)

General Notices.

The Hyacinth.—As the season has arrived when remarks on this justly admired spring flower may be acceptable to many of your readers, I therefore beg to give them the benefit of my experience in its culture, which, if followed, will enable them to produce flowers very different from those usually met with. In the first place, much, very much, depends upon the quality of the bulbs, which should be perfectly ripe, and the sooner obtained after their arrival the better, for I consider it highly objectionable to expose them much to the air, except just to throw off any moisture they may have attained during their transmission. Always select the largest and best shaped bulbs, rejecting as a rule those that are loose in texture and small; but I find generally that if the base of the bulb is sound and ripe, the other portion can be depended upon, and, in fact, this is the only guide to follow in regard to such kinds as Porcelain Sceptre, Prince Albert, and many others of the best sorts which have wretched-looking bulbs; indeed, so much so, that I have seen them thrown aside as useless; it is therefore best for the amateur to leave the selection to those who are well acquainted with their properties, until by experience he can trust his own judgment. The compost is another important point; this should consist of an equal portion

of turfy loam and well-decayed cowdung previously prepared by exposure to air, by frequent turnings so as to thoroughly incorporate them; and to this add about one third silver sand, for they delight in a gritty open soil; I prefer 6-inch or 32-sized pots so as to give plenty of room for their strong roots. Fill the pots about one third with draining materials—I use broken oyster shells, although potsherds will do as well—and the remaining two thirds with the compost; clear the root of all offsets and loose parts, and press tightly into the soil, leaving one third above the surface; then water them sufficiently to settle the soil, and plunge them a foot at least under coal ashes or old tan out of doors, or in a cold pit or frame. This is done to cause them to make roots before the crown is excited into growth: this is, I think, the most essential point, for unless the pot is well filled with roots, good flowers cannot be obtained. In a month or six weeks, the latter being the better time, take as many as may be required for the earliest blooming, and gradually inure them to light previous to placing them in the forcing pit, and as soon as these show their color proceed with others in the same manner. The end of September is soon enough to pot the earliest sorts, repeating the operation until the end of November, by which means a succession of flowers can be had from Christmas till April. The finest flowers will be obtained from those not too strongly forced. If for exhibition, I recommend potting not later than the middle of October, gradually bringing them forward as before described. Give them plenty of water, and use liquid manure in a very weak state twice a week. These will be in full bloom during February and March, and I consider that no hyacinths should be exhibited after the latter month. I look forward to the time when those blue-bell looking flowers, such as are generally seen, will only be subjects for remembrance, for I am convinced that hyacinths can be had nine inches or more in circumference, and with length of spike in proportion.—(*Gard Chron.*, 1856, p. 630.)

WASHINGTONIA GIGANTEA.—M. Jules Rémy, a learned French traveller, has given a very interesting account of the Big Evergreen trees of California, in Van Houtte's *Flore des Serres*, which we copy, as follows:—

At 5 leagues from Murphy, in following the course of one of the affluents of the Stanislas river, which finds its winding murmuring way at the bottom of a deep wooded valley at the entrance of the Sierra Nevada, the traveller stops in amazement at the edge of a little basin about two miles across and some 1490 yards above the sea. Here stand the giants of the vegetable world. At the sight of these colossal Conifers, which seem to belong to some other planet, it is impossible to restrain one's feelings of admiration.

Ninety of these gigantic trees, the smallest of which is not less than 15 feet in diameter, are confined in a space of 50 acres, where they stand above other species of their race just as Lombardy Poplars overtop the Pollard Willows that accompany them in Europe. Yellow Mosses and Lichens floating like long tresses adorn their proud trunks; while a parasite of the genus *Hypopitys* attaches itself to their roots, and gracefully surrounds

their base with stems two feet high, covered with flowers and transparent rose-colored floral leaves.

Most of these great trees appear to have had their tops broken by the weight of snow which collects during winter on their terminal branches. Many moreover are injured at the base by fire, ascribed to the ignorance of the Indians. One of the trees was stripped of its bark, two years ago, to the height of 100 feet, by some United States people; nevertheless it continues to live at the point, as if these monarchs of the forest were subject to laws altogether peculiar to themselves. A spiral ladder has been formed upon the same tree by means of steps cut into the body.

In the holes formed by fire at the base of several of these trees whole families might establish themselves. A carriage drawn by several horses would run with ease along one of them which lies on the ground; for the bark is usually furrowed, so as to appear as if the trunk were formed of fluted columns. Each monster has received an English name from their owner, who acts as cicerone to visitors. The following is a list of the more remarkable.

The Big Tree was 95 feet English in circumference, and 300 feet high. Five men were employed for 25 days in cutting it down. Their method of effecting this was as follows: They first formed a circle on the circumference at seven feet from the ground. Then by means of an enormous augur a multitude of holes were formed close together so as to destroy the equilibrium of the colossus, and bring it over. Its fall was attended with a deafening noise as loud as the discharge of a battery of heavy artillery. Three weeks were consumed in this work of Vandalism and in stripping the carcase of its bark to the length of 52 feet. Its diameter, measured by Mr. Brenchley at six feet from the soil, was 23 feet seven inches without reckoning the bark, which was at least three feet more. A place for bowls and a house have been constructed upon its fallen trunk, and the stump, which has been planed, is surrounded by a summer house furnished with seats where the curious may meditate upon the surrounding objects. Some travellers have endeavored to determine the age of this Big Tree, which however notwithstanding its name is not the biggest of the group, as will be seen presently, but was only the most perfect and handsomest before it was upset. Having counted the number of rings on 12 inches only of the radius they multiplied the sum thus obtained by the semi-diameter, and obtained a product which led them to estimate the number of springs which this noble tree has experienced at 3000. But having made no allowance for the difference in the rate of growth of different rings of wood they fell into a rather considerable mistake. A careful examination does not allow the age of our vegetable Methuselah to have much exceeded 2000 years. And when reduced to this figure its age is still respectable enough to occupy the mind of the philosopher with reflections upon the many revolutions that have convulsed the world since the germination of our tree.

The Miner's Cabin is 80 feet in circumference and 300 feet high.

The three Sisters are placed so as to look as if they sprang from the

same root. The three trees are intact and form the most beautiful group of the "Mammoth Grove," the name given by the Americans to the basin in which the Washingtonias stand. Each is 300 feet high and 92 feet in circumference. That in the middle rises to the height of 200 feet without a branch.

The Pioneer's Cabin is an enormous tree, with the trunk broken off at 150 feet from the ground.

The Old Bachelor is 300 feet high and 60 feet in circumference.

The Hermit, thus called because it stands alone, is 300 feet high and 75 feet in circumference. It has been burnt on one side of its trunk. It is calculated that it contains 725,000 cubic feet of timber.

The Husband and Wife are each 60 feet in circumference, and their trunks, which are 250 feet high, come together at the summit.

The Family Group consists of 26 trees standing close together, and includes "Father," "Mother," and 24 children. The Father was blown down many years ago, and measures 110 feet in circumference at the base. It is thought that he must have been 425 feet high. In falling he smashed himself against a neighbor at the height of 300 feet, and *at this point he is still 40 feet in circumference!* The fragment of the trunk which is now prostrate is half buried in the earth, is hollow from end to end, and detains towards one extremity the waters of a spring which he covered in his fall. The Mother is 91 feet in circumference and 327 feet high. The children are rather smaller.

The Siamese Twins and their Keeper. The bodies of the twins separate at 40 feet from the soil, and are each 300 feet high. The Keeper, who stands by their side, is 325 feet high and 80 in circumference.

The Old Maid stands alone; her head is naked and bent; she is 200 feet long and 60 feet round.

Adie and Mary are thus called after two young American girls who first drove through the Mammoth Grove. These are two very beautiful trees, 300 feet high and 60 feet round.

The Horseback Ride is an old hollow prostrate trunk, on which you can ride on horseback for 75 feet. This aged trunk is 250 feet long.

Uncle Tom's Cabin is so called because its base is hollowed into a wide and deep cavern, entered by an opening 27½ feet wide and 10 feet high. Twenty five persons can be seated in this grotto-like cavity. The tree is 300 feet high and 90 feet round.

Master Shelby, named after the owner of Uncle Tom, stands 15 feet off the last, and is not quite 300 feet high.

The Bride of California is 280 feet high, and 70 round.

The Beauty of the Forest is a very upright tree, almost without branches to the top, where it is capped with verdure. This is 300 feet and 65 in circumference.

So much for M. Rémy's personal observation of the Washingtonias in the Mammoth Grove of Calaveras. According to M. Carriére the species is now known to occur elsewhere on the Sierra Nevada, especially in Carson

Valley, but very inferior in size, owing to the destructiveness of men; and also as high as 50° N. latitude, whence an officer of the French navy has brought cones identical with those from California.—(*Gard. Chron.*, 1856, p. 643.)

Cultivation of Ferns by Seeds.—It is well known that Ferns are naturally propagated by the small brown bodies formed on the under side of their leaves and which we shall, at the risk of being taken to task by our botanical friends, call seeds. These seeds are not, however, what meets the naked eye when the under side of a Fern leaf is examined. The parts which are so easily seen by the naked eye are the seed-vessels; Fern seeds are little angular bodies too minute to be visible, and are expelled by the spontaneous bursting of the seed-vessels, which then remain empty behind. It may therefore and often no doubt does happen that when the brown dust from the back of a Fern leaf is sown, it has no seeds among it, but consists entirely of fragments of the broken seed-vessels. In this way we may explain the general want of success that attends the attempts of those who endeavor to raise Ferns from dried specimens gathered in foreign countries. Such specimens generally have shed all their seed before they reach Europe.

To obviate this difficulty Mr. Saunders requested Mr. Wallace, the distinguished naturalist then at Singapore, to adopt the following method: A little moderately damp earth being spread flat, the under side of a fresh ripe Fern leaf was pressed upon the earth, so as to detach the seeds and their seed-vessels. The earth was then placed in a vial, corked up and sent to England. The vial was six months on the voyage home; upon its arrival in mid-winter its contents were sown in a shady damp hothouse. In a short time Fern plants sprang up "as thickly as mustard and cress," and the plants are now after six or seven months from 4 to 5 inches high.

The process thus described is attended by the very important advantages of securing perfectly fresh seed, and of placing it during its passage home in a situation just as damp as is necessary to maintain vitality unimpaired. The only precautions needed are to be certain that the seed is ripe when pressed upon the earth, to take care that the latter is merely damp, not wet, when corked up, and to keep the vial in the dark. In this way all the Ferns of the tropics may now be procured with the greatest facility.

Some, indeed, may think that we previously knew all about Fern-raising, and that herbaria need only be ransacked to secure supplies of seeds. Never was a mistake greater. We are assured, indeed, that Willdenow raised various kinds of Ferns in Berlin from seeds thus procured, and that two plants of Gymnogramma calomelanos were once obtained in the garden at Liverpool from seeds 50 years old taken out of the herbarium of Forster. Let us frankly own that we read these stories with incredulity; to our mind such so-called facts are open to great suspicion. Not that we presume to question the good faith of those who are said to have succeeded in the operation; quite the contrary; Willdenow, of Berlin, and Shepherd, of

Liverpool, who thought they had done these things, were probably mistaken. They raised something—some sort of Fern—but we are persuaded that the supposed result was owing to one of those accidents which all who are conversant with great gardens know to their cost are so common, or rather so inevitable, in such establishments. We found this opinion upon the general want of success which has attended attempts in this country to repeat the Liverpool and Berlin experiments. Some years ago the late Mr. George Loddiges sowed the seeds of some hundred of Ferns preserved in an herbarium, and if any one could have raised them he was the man. But the attempt was a complete failure; the seeds would *not* grow.

We do not mean to say that Fern seeds taken from plants recently deposited in an herbarium will never grow. Probably they will. But it cannot be denied that success is uncertain, and it is far less trouble for a traveller to secure seeds in the way proposed by Mr. Wilson Saunders, and successfully adopted by Mr. Wallace, than to dry specimens for the purpose, even if, when dried, it were perfectly certain that they would grow. Many sorts might, at a pinch, be sent home in the same vial, either mixed together or separated by some little contrivance, and thus half a dozen bottles which would travel in a coat pocket would do well a duty which a bulky package of dried plants would certainly do ill, if at all.—(*Gard. Chron.*, 1856, p. 627.)

Societies.

NEW YORK STATE AGRICULTURAL.

The Sixteenth Annual Exhibition of this Society was held in Watertown, N. Y., on the 30th of September, and 1st, 2d, and 3d of October, 1856.

Owing to unavoidable engagements it was not in our power to be present. The previous week we had attended the pomological meeting at Rochester, and could not prolong our visit till the fair at Watertown. The weather, unfortunately, was very unfavorable. A storm prostrated the floral tent, intended for the exhibition of fruits and flowers, and the first two days were rainy. By the exertions of the managers, however, everything was put in order on the third day, when there was an immense attendance, the number which entered the grounds being estimated as high as 20,000. Taken as a whole, the exhibition has probably never been excelled, and, had the weather been fair throughout, it is believed that 50,000 persons would have been present.

The entire list of premiums is published in the Society's Journal, and we copy a portion of the awards in the fruit department.

PROFESSIONAL LIST.

APPLES.—For the best twenty varieties, to Ellwanger & Barry, silver plate, $10.

PEARS.—For the greatest number of varieties, (150 varieties,) to Ellwanger & Barry, silver plate, $15.

For the second best, to H. E. Hooker, (59 varieties,) $10.

For the best twenty varieties, to Ellwanger & Barry, $10.

For the second best do., to Ellwanger & Barry, $8.

For the third best do., to Ellwanger & Barry, $5.

PLUMS.—For the greatest number of varieties, to Ellwanger & Barry, $5.

GRAPES.—For the greatest number of varieties, to Ellwanger & Barry, $10.

For the best native grape, to J. Wilson, for the Rebecca, $3.

AMATEUR LIST.

APPLES.—For the greatest number of varieties, to C. B. Burtis, $15.

For the second best, to E. S. & E. N. Hayward, Rochester, $10.

PEARS.—For the best six varieties, to E. Dow, Albany, $5.

PLUMS.—For the greatest number, to E. Dow, $5.

FOREIGN FRUIT.

PEARS.—To Hovey & Co., Boston, for the greatest variety of pears, (200 varieties,) silver plate, $15.

To Hovey & Co., for the best twenty varieties, $10.

In the flower department, Messrs. Thorp, Smith, & Hanchett obtained the first premium for cut flowers, $10; John Wilson, for dahlias, $6; Ellwanger & Barry, for roses, $8, and phloxes, $5; Thorp, Smith & Hanchett, for verbenas, $5; John Wilson, for asters, silver medal, and pansies, $3; Mrs. O. T. Van Namee, Pittstown, Rens. Co., for best twenty plants, $10; J. C. Sterling, Watertown, best design, $5, and John Wilson, Albany, best bouquets, $5.

In the amateur list, Mrs. Van Namee carried off the prize for cut flowers, $10; dahlias, $5; verbenas, $5; phloxes, $5; asters, $3, and stocks, $3.

UNITED STATES AGRICULTURAL.

The Fourth Exhibition of this Association was held at Powelton, Philadelphia, on the 7, 8, 9, and 10th of October. At this exhibition, for the first time, horticultural products and agricultural implements were made a prominent feature of the show. A tent was erected for fruits and vegetables, and a very good display made, though not so large as we had anticipated. Philadelphia did not do her share in the exhibition. There was very little from the immediate vicinity of the city besides Mr. Buist's thirty varieties of pears. From the western part of the state some very superior apples were shown; and Mr. Reid of Elizabethtown, N. J. sent about fifty varieties of pears. Most of the pears were from Boston. The President of the Society contributed 150 varieties, and Messrs. Hovey & Co. 200 varieties.

Grapes were shown in quantities; besides the Isabellas and Catawbas, which, however, constituted the main part, Messrs. Hovey & Co. had Diana, Concord, and Rebecca. Dr. Grant, To Kalon, and a new seedling white grape, named Anna. Mr. Raabe, the Brincklé, Clara, and one other,

and T. S. Fletcher, the Concord. The Rebeccas received the commendation of every one who tasted them, and obtained the premium as the best native grape. We copy the following awards of the judges:—

APPLES.—For the largest and best exhibition of named varieties, three specimens of each, to John Perkins, $50.

For the second best, to Jacob Conklin, $30.

For the third best, to Haberson & Brother, $20.

For the best thirty varieties, six specimens each, to S. W. Noble, $30.

For the second best, to David Petit, $20.

For the third best, to J. A. Nelson, $10.

For the best twelve varieties, six specimens each, to H. A. Mish, $15.

For the second best, to Chas. Colflesh, $10.

For the best dish, of one variety, to C. Goodrich, $5.

For the second best, to Wm. Parry, $4.

For the third best, to D. G. Guyer, $3.

For the fourth best, to J. Perkins, $2.

PEARS.—For the largest and best exhibition of named varieties, three specimens of each, to Hovey & Co., Boston, Mass., $50.

For the second best, to Wm. Reid, New Jersey, $30.

For the third best, to Wm. Parry, $20.

For the best thirty varieties, of six specimens each, to R. Buist, $30.

For the best twelve varieties, six specimens of each, to J. B. Baxter, $15.

For the best dish, of one variety, to T. S. Fletcher, $5.

For the second best, to Mrs. Leggit, $4.

For the third best, to Geo. Blight, $3.

For the fourth best, to Chester Pinney, $2.

And the Committee recommend the following special premiums: to Hon. M. P. Wilder, $50; R. Longstreth, $2; Wm. Summer, $2; Isaac Eckert, $2.

For the best dish, not less than twelve specimens of one variety, to J. B. Baxter, $5.

For the second best, to R. Seaman, $3.

GRAPES.—For the best Native or Seedling grape, hardy, and equal or superior to the Isabella, to Hovey & Co., Boston, Mass., $20 for the Rebecca.

For the second best, to Peter Raabe, Philadelphia, $10.

For the best display of Isabella grapes, twelve bunches, to Sarah P. Worrell, Del. Co., P., $10.

For the second best, to John Rice, Philadelphia, Pa., $5.

For the best display of Catawba grapes, twelve bunches, to John Rice, Philadelphia, Pa., $10.

For the second best, to T. S. Fletcher, Delanco, N. J., $5.

For the best display of Native grapes, to Iowa Nursery, $15.

For the second best, to I. B. Baxter, Philadelphia, Pa., $10.

For the best display of foreign grapes, to R. Buist, Philadelphia, $15.

For the second best, to James Astly, gardener of Eden Hall Institute, $10.

WATER-MELONS.—Special premium of —— to R. L. Colt, New Jersey.

For fine collection, to J. J. Hatch, $10.

For fine specimen Mountain Sweets, to Champion & Golde, $3.

The weather was remarkably fine during the entire week, and the exhibition was witnessed by more than 150,000 persons. It was a very successful and satisfactory display.

Massachusetts Horticultural Society.

Saturday, Oct. 4.—The annual meeting of the Society was held to-day, the President in the chair.

The following officers were elected for the ensuing year:—

President—Joseph S. Cabot.

Vice Presidents—Benjamin V. French, Cheever Newhall, Edward M. Richards, Josiah Stickney.

Treasurer—William R. Austin.

Corresponding Secretary—Eben. Wight.

Recording Secretary—F. Lyman Winship.

Professor of Botany and Vegetable Physiology—John Lewis Russell.

Professor of Entomology—J. W. P. Jenks.

Professor of Horticultural Chemistry—E. N. Horsford.

Committee on Fruits—Eben. Wight, Chairman; W. R. Austin, C. M. Hovey, Joseph Breck, W. C. Strong, F. L. Winship, J. F. C. Hyde.

Committee on Flowers—E. S. Rand, Jr., Chairman; E. A. Story, Azell Bowditch, Thomas Page, A. C. Bowditch, W. J. Underwood, Matthew H. Burr.

Committee on Vegetables—D. T. Curtis, Chairman; Bowen Harrington, Eliphalet Stone, Francis Marsh, Galen Merriam.

Committee on Library—C. M. Hovey, Chairman; Azell Bowditch, R. McCleary Copeland, Librarian, Henry Bradlee, E. S. Rand, Jr.

Committee on Synonyms of Fruit—M. P. Wilder, Chairman; B. V. French, Samuel Walker, C. M. Hovey, and Chairman of Committee on Fruits.

Executive Committee—The President, Chairman; the Treasurer; M. P. Wilder, P. B. Hovey, Samuel Walker.

Committee for Establishing Premiums—Chairman of Committee on Fruits, Chairman; Chairmen of Committees on Flowers, Vegetables, and Gardens; F. L. Winship, P. B. Hovey.

Finance Committee—M. P. Wilder, Chairman; J. Stickney, S. Walker.

Committee of Publication—Chairman of Committee on Fruits, Chairman; Chairmen of Committees on Flowers and Vegetables; Recording Secretary; C. M. Hovey, W. C. Strong, R. M. Clark.

Committee on Gardens—Samuel Walker, Chairman; W. R. Austin, F. L. Winship, Thomas Page, Chairmen of Committees on Fruits, Flowers, and Vegetables; Ex-Officio members.

Exhibited. FLOWERS: From J. Breck & Son, P. Barnes, W. J. Underwood, Miss Russell, E. S. Rand, Jr., F. Winship, Hovey & Co., and others.

The Exhibition of Dahlias for premiums took place to-day, and the following is the award of the Judges:—

AWARD OF PRIZES FOR DAHLIAS.

PREMIUM PRIZE.—For the best twelve dissimilar blooms, to Parker Barnes, for Napoleon, Napoleon 3d, Mons. Gardier, Ruby Queen, Annie, Mad. Alfred Parignon, Sylph, Topsy, Miss Caroline, Lord Bath, Mrs. Mathews, and Gen. Fauchier, $8.

SPECIMEN BLOOM.—For the best, to Gen. H. K. Oliver, for Mad. Zahler, $3.

VARIOUS COLORS.—For the best yellow, to P. Barnes for Queen of Yellows; best rose, to P. Barnes for Mrs. Matthews; best tipt, to P. Barnes for Beauty of the Grove; best striped, to P. Barnes for Frisette; best dark, to Hovey & Co. for the Nigger; best scarlet, to Hovey & Co. for Magnet; best fancy, to Hovey & Co. for Triumph de Roubaix, $1 each.

BEST 24 DISSIMILAR BLOOMS.—To P. Barnes, for Admiration, Lord Bath, Napoleon 3d, Cossack, Mrs. Mathews, Annie, Mons. Gardier, Amazon, S. R. Whittington, Mad. Alfred Parignon, Autocrat, Chettenham Queen, King of Yellows, Ringleader, Summit of Perfection, Miss Whale, Frisette, Gen. Fauchier, J. Longstreth, Roundhead, Mrs. Rawlings, Mrs. Sarah Curtis, Golden Eagle, and Princess Charlotte, $7.

For the second best, to H. K. Oliver, for Mad. Zahler, Cossack, Lady Cathcart, Mrs. Mathews, Summit of Perfection, Miss Caroline, Mrs. Blackmore, Roundhead, J. Longstreth, La Rosier, Sylph, Gen. Fauchier, Miss Vyse, Mad. Alfred Parignon, Victoria de l'Alma, Annie Salter, Ringleader, Richard Cobden, Fanny Keynes, Triumph de Roubaix, Geo. Glenny, Spectabilis, Lord Bath, and one other, $5.

BEST 18 DISSIMILAR BLOOMS.—To P. Barnes, for Napoleon 3d, Gen. Fauchier, Victoria de l'Alma, Miss Whale, Mrs. Gardien, Mrs. Mathews, Miss Bathurst, Pearl de Bean, Annie Salter, Ringleader, Espartero, Lord Bath, Annie, Brilliant, King of Yellows, Cornet, J. Longstreth, and Beauty of Hastings, $6.

For the second best, to H. K. Oliver, for King of Yellows, Sylph, Mont Blanc, Annie Salter, Black Prince, Richard Cobden, Mrs. Mathews, Hyppolite, Lord Bath, Belle de Paris, Streata Perfecta, and seven others, names not known, $4.

FRUIT: The exhibition of pears to-day has not been surpassed at any former weekly show. Nearly every contribution was of extra size, and well grown. The Committee cannot refrain from specially noticing the contribution of Seckels from Isaac Fay, twelve of which weighed 51¼ ounces; while those from S. Kemp were scarcely less sizeable, twelve of the same variety weighing 50 ounces. Louise Bonne de Jersey, shown by G. B. Richardson, were very large, as were those shown by J. Eaton.

The contributions of open cultured grapes was such as to satisfy all that the time is near at hand when we shall have delicious grapes without the aid of glass. The following varieties were tested in committee, and by

invitation: there was present at the board several of the best cultivators of hothouse grapes; each and all were unanimous in pronouncing (as delicious) on several of the varieties (a full account of which will be given in the Committee's annual report) viz., Rebecca, Allen's Hybrid No. 19, Wight, Winship, Allen's Hybrid No. 3, Wyman, &c. The three first named are white grapes. At the time of trial of quality, we had Isabellas, Dianas, and Catawbas to compare the quality. The following note accompanied the contribution from Mr. Allen:—

"Hybrid No. 19, probably impregnated by Black Hamburgh, blossomed on June 24th, (August 25th coloring); the same time that the Isabella and Diana colors, the former much better situated; the Diana on a building, but on an east exposure. Should think that these two hybrids would ripen in ten days less time than the Isabella, at least, and as early if not earlier than the Diana. Twenty years since I had Isabella vines where these hybrids now are, in the open air, in my garden, and removed them in consequence of their failure to mature a crop oftener than once in five years, owing to the cold wet soil.

You have Isabella and Diana (to test with these hybrids) from the vines named above. As these two varieties have been fairly proved the best for common cultivation in this vicinity, it is fair that all seedlings be compared with them; if better, or earlier, or both, then we have gained something; if the reverse, they had better be discarded after three years' bearing, so as not to multiply varieties of no value. I find the first year of fruiting not a true test, as they usually improve one and two years, but occasionally they deteriorate.

Allen's Hybrid was grown under glass, and has been ripe since 1st August, showing that it has the valuable property of keeping long upon the vine. It was not forced, but blossomed on the 7th May, and had but five hours sun on the house daily. It is one of the earliest.

Hybrid No. 3 is evidently a cross of Black Prince and Isabella. I think it will grow sweet yet this year. It is in a wet situation, and has had all the drainage of the garden this wet season, and this will destroy the richness of flavor always. It bloomed June 28th—seven days later than Isabella; began to color 23d August (two days before Isabella in a much more favorable situation.) 1856, Isabella on south wall of dwelling house blooms 21st June, August 25th coloring. Some bunches now ripe and part not ripe. This vine under my care has *never* failed to ripen its crop the past thirteen years."

C. E. Grant exhibited quite a number of dishes of Isabella and Catawba grapes fully ripened; also Black Hamburgh grapes, Late Crawford peaches, and Beurre Bosc pears. From Breck & Son, Wyman grapes. From G. B. Cutter, extra fine Isabella grapes. From J. Hayley, Urbaniste pears. From Simeon Soule, Duchesse d'Angouleme years. From S. Kemp, Seckels, extra fine. From Isaac Fay, Seckels, extra fine. From E. Brown, Louise Bonne de Jersey, Duchesse d'Orleans, Bergamotte, Long Green, Fred. Wurtemberg pears. From C. Young, peaches, three years from the planting of the pit or stones. From J. A. Stetson, Urbaniste pears and

Orange Quinces. From W. Brigham, Late Crawford peaches, extra fine. From A. W. Stetson, Wight & Winship, seedling grapes, open culture; Mexican apples. From Charles Beston, Swan's Orange pears, extra large. From G. B. Richardson, Louise Bonne de Jersey pears, extra fine.

October 11th.—Exhibited. FLOWERS: From J. Nugent, Patrick Wall, Mrs. J. Wales, Jr., W. Curtis, Curtis & Cobb, J. Breck & Son, P. Barnes, and E. S. Rand, Jr.

October 18th.—Exhibited. FRUIT: From Rev. W. H. Ryder, very superior specimens of Urbaniste pears. From J. H. Blake, fine Napoleon, Duchess, and Marie Louise pears. From J. F. Allen, 6 var. grapes, among them the Bronze grape from Syria; this is probably the Syracuse grape of Lindley. From J. Stickney, Urbaniste pears. Quinces from E. S. Rand, Jr., J. C. Bachi, and J. W. Foster.

October 25th.—Exhibited. FRUIT: From J. B. Loomis, Easter Beurre pears, extra fine, the largest weighing 12 oz. and all of them remarkably fair and unusually large; also fine Urbaniste, Passe Colmar and Catillac pears. From Jas. Eustis, 10 var. apples. From C. E. Grant, Isabella and Catawba grapes, fine. From R. S. Rogers, Barbarossa grapes, two bunches, weighing 3 lb. 4½ oz. and 2 lb. 9½ oz. From L. Davenport, very fine Hubbardston Nonsuch apples. From E. Cleaves, fine Diana Grapes. From Messrs. Lovett, Beurre Bosc, B. Clairgeau and other pears. From C. Bruce, very fine Beurré Diel pears. Fine Duchess pears from J. E. Howard and J. A. Stetson.

PREMIUMS AND GRATUITIES AWARDED FOR FRUITS.

GRAPES, (Foreign.)—For the best specimens to Wm. P. Perkins, $8.
For the second best, to Mrs. F. B. Durfee, $6.
For the third best, to J. F. Allen, $4.

GRAPES, (Native.)—For the best, to G. B. Cutter, Isabellas, $6.
For the second best, to E. A. Brackett, Delaware, $5.
For the third best, to C. E. Grant, Isabella, $4.
For the fourth best, to E. Cleaves, Diana, $3.
For the fifth best, to G. C. Haynes, Isabella, $2.

PEACHES.—For the best to N. Stetson, Shanghae, $5.
For the second best, to Wm. Brigham, Late Crawford, $4.
For the third best, to C. E. Grant, Late Crawford, $3.
For the fourth best, to F. Dana, Late Crawford, $2.

PLUMS.—For the best, to H. Vandine, various, $4.
For the second best to G. Evers, Peach, $3.
For the third best, to C. E. Grant, Green Gage, $2.

MELONS, (Musk.)—For the best, to E. M Richards, Christiana, $3.
For the second best, to C. S. Holbrook, $2.

NECTARINES.—For the best, to H. H. Hunnewell, Stanwick, $3.
For the second best, to J. F. Allen, $2.

GRATUITIES.—To R. S. Rogers, for fine specimens of Barbarossa, Silver Medal.
To Hovey & Co., for Rebecca, Silver Medal.
To E. A. Brackett, for Union, Silver Medal.

Horticultural Operations

FOR NOVEMBER.

FRUIT DEPARTMENT.

The month of October has been pleasant nearly throughout, with but few frosty nights, and these not very severe, the lowest range of the thermometer being 26°, just sufficient to destroy all tender vegetation. Rains were frequent in the early part of the month, but the latter was drier, and the ground is now in fine condition for transplanting and performing all garden operations.

GRAPE VINES in the greenhouse will now have fully ripened their wood and may be pruned as soon as leisure permits. Vines in early houses pruned last month will begin to grow the latter part of this or early in December. If the canes have not been cleaned of all insects attend to it at once. Vines in cold houses should be looked after in order to fully mature the wood; air freely in good weather, and close up early on cool nights.

STRAWBERRY BEDS should be now cleared of weeds for the last time, that they may be in readiness for covering as soon as the weather is cold. Sea weed, old corn stalks, straw or coarse manure will answer for this purpose. Plants in pots for forcing should be protected in frames where they may be kept from freezing hard.

FRUIT TREES should be transplanted at this season; but before this is done see that the ground is thoroughly prepared by deep trenching, draining, &c. It is useless to expect fine fruit without due care. Use nothing but good garden soil, in filling up the holes, but manure the surface liberally after the tree is set, which will sufficient enrich as well as protect it.

FRUIT should have attention. Let the fruit room be aired occasionally, and keep up an even temperature of 38 to 42°. Late keeping pears do best in barrels, stored in a cool cellar.

INSECTS should be looked after, especially the canker-worm grub. Nothing but neglect will give them an opportunity to do much injury.

FLOWER DEPARTMENT.

At this cheerless season of the garden, the conservatory and greenhouse should be rendered agreeable places of resort by keeping them in the best order. We know it is not expected that they will be as attractive as later in the season, when there is less to do in the open ground, but still they should not be so much neglected as they often are. By judicious management they may be kept neat and clean, and with a little care tolerably well embellished with flowers, such as chrysanthemums, salvias, cactuses, roses, heliotropes, verbenas, &c., most of which may be removed when they are out of bloom to make room for other things now crowded together. Look out now and see that a sufficient stock of soil is laid in to last till spring. Protect plants in frames on frosty nights and keep everything out as late as their healthy condition will permit.

Camellias should now be freely watered and frequently syringed, washing the foliage by hand if very dirty; nothing adds more to the attraction of a fine collection then a clear and glossy foliage.

Pelargoniums will need a warm and light situation as near the glass as possible; a front shelf is the best place; shift such young plants as need it, and nip off the tops to make them bushy and stocky.

Chrysanthemums should have a good place in the dryest part of the house, as they suffer from moisture, and the flowers do not keep half as long.

Cinerarias should be removed to the house from frames, this month, and should have a shift into larger pots; keep in a rather cool situation, and fumigate as often as the aphis appear, for they soon destroy the plants.

Azaleas should be sparingly watered at this season, as too much moisture causes them to lose their foliage.

Epiphyllum truncatum and its varieties now coming into bloom should be freely watered.

Roses intended for spring bloom should be kept in frames till very severe weather.

Callas may have a shift now into larger pots.

Cactuses should be sparingly watered.

Monthly Carnations, coming into bloom, should be neatly staked up. Young stock may be wintered in frames.

Cyclamens may be repotted now.

Fuchsias, except such as were propagated late and still in bloom, may be partially headed down, and placed under the stage till February.

Nemophylas, potted off last month, will now be in bloom, and may have a large pot.

Orange Trees should be sparingly watered till they begin to grow.

Calceolarias should have a good situation near the glass.

Ten Week Stocks, now in pots in frames, may be brought in the latter part of this month.

FLOWER GARDEN AND SHRUBBERY.

There is plenty to do now, if the weather holds fine. Keep the lawn raked neatly and the walks in good order. Roll and cut the grass once more, and then top dress for the winter if the turf is not good. Attend now to all kinds of planting.

Hyacinths and other hardy bulbs should be planted out this month.

Dahlias should be taken up and housed, before too severe frosts.

Gladioluses should be taken up.

Herbaceous Pæonies may be removed now.

Violets in frames should be kept well protected from heavy frosts.

Herbaceous Plants of all kinds may be removed this month.

Japan Lilies should be taken up, divided and reset.

Pansies set out now and protected with a frame will bloom finely next spring.

Roses may be transplanted.

Prepare ground now for spring if there is any leisure.

THE AMERICAN POMOLOGICAL SOCIETY.

In a previous number we gave a brief notice of the fourth meeting of this Society, which was held in Rochester, N. Y., on the 24th of September last, and continued in session three days. At that time we deferred an account of its proceedings until the report of the same was published. But as this has not yet come to hand, we avail ourselves of an official abstract of it, published in the Rural New Yorker, which contains all the discussions upon the several varieties of fruits brought before the Society, the only information of general interest to our readers, the other matter being chiefly reports of State committees.

The meeting was held at Rochester, with the intention of meeting our Western friends half way, and with the expectation that they would bring with them specimens of the magnificent apples which are produced in that fertile region, both for exhibition and examination, that their great beauty might be witnessed and the qualities of such as are rare or little known better appreciated, and the synonymous varieties detected.

In all this, however, our Eastern friends were disappointed. With one or two exceptions, in all not amounting to more than twenty or thirty kinds, no apples were presented before the Society, and even Western New York, usually prolific in specimens of this excellent fruit, was as deficient in this respect as the great West. Owing to an unprecedented cold winter, the apple trees were not only severely injured, and the crop consequently destroyed, but in many localities they were killed outright, to such an extent that it must be three or four years before they can be replaced and brought to as good a bearing state as they were a year previous. New York did not suffer in the loss of trees, but the intense cold, followed by a summer of severe drought, so greatly diminished the product of the orchards, that few really fine specimens

were brought forward for examination. On this account very little was done towards establishing the character of new varieties, or correcting the nomenclature of the older sorts, so long desired, and the pear was again the principal fruit which occupied the time of the meeting. With this, some progress was made, though not to the extent we had anticipated. The Western cultivators have had so much to contend against, that they were unprepared to add anything of importance to their experience of the two years previous. The cold made sad havoc with the trees and crops, as well as with the apple, and in addition to this the blight has severely injured many plantations of this fine fruit. On the whole, we may congratulate the members upon what has been done, and look forward to more important results at the next meeting.

The meeting was opened by the customary address from the President, in which he recapitulated the progress of Pomological science, and offered many valuable suggestions in regard to the objects for which the Society was instituted. When our space will allow we hope to find a place for some extracts from Mr. Wilder's address.

Officers were then chosen for the ensuing year, and the meeting proceeded to business at once, beginning with a revision of the list of pears heretofore adopted for general cultivation.

PEARS.

ANANAS D'ETE.—Mr. C. Downing stated it had proved variable, and he wished it struck from the list; but Mr. Saul and Mr. Buist both praised it highly, and it was passed over.

ANDREWS, LAWRENCE, BELLE LUCRATIVE, and BEURRE' D'ANJOU, were each highly spoken of.

BEURRE' D'AREMBERG.—Mr. Ernst and Mr. Townsend, of New York, had never ripened a specimen worth eating, and Mr. Barry thought it was not in its proper place on the list for general cultivation. Messrs. Walker, Reed, Berckmans, Prince, Hodge and the President spoke well of it, and it was allowed to remain with the addition of "high cultivation" attached to it on the list.

BUFFUM and DEARBORN'S SEEDLING were pronounced good.

FULTON.—Quite a spirited discussion took place in regard to this pear. Messrs. Reid and Saul said that it should not be on the list because it was a poor grower. Mr. Barry also thought it in the wrong place. Mr. Buist considered it a very inferior pear, especially at the South. On the other hand, Mr. Walker spoke highly of it. Mr. C. M. Hovey thought it one of the most desirable kinds. Mr. Cabot said that if the Fulton was struck off, we might with propriety strike off half the list. Objections were also urged against its size. Messrs. Prince and Ernst praised it very highly, and it was voted to remain upon the list. After a long discussion respecting any further revision of this list, the meeting proceeded to take up the list of "pears which promise well," and select from it such as deserve GENERAL CULTIVATION. First in order was the

ADAMS, but it was not known out of Boston, and was passed over.

BEURRE' CLAIRGEAU.—Mr. Saul wished it placed on the general list. But this was objected to mainly because it was too new. The President, C. M. Hovey, Mr. Barry and others spoke well of it. Mr. Cabot was inclined to distrust its hardiness. Mr. Barry remarked that it was not good upon the quince. It was not added to the list.

BEURRE' GIFFARD.—All spoke highly of the quality of this fruit, and all agreed that it was not a strong grower or great bearer. It was passed over.

BEURRE' STERCKMAN.—Very few knew anything in regard to this fine pear.

BEURRE' SUPERFIN.—Messrs. Barry, Berckmans and Saul were in favor of recommending it for general cultivation. The President and C. M. Hovey had found it a rather shy bearer so far; and Mr. Ernst said it had not been tried at the West. Its quality was not doubted by those who knew it.

CHANCELLOR.—Mr. Reid and Mr. Berckmans had found it one of the best pears; the President, the poorest in his collection.

DOYENNE' BOUSSOCK.—Messrs. Walker, C. M. Hovey, Dr. Brincklé, Cabot, Barry, Buist and the President thought very highly of this pear, and would recommend it for general cul-

tivation. Mr. Ernst objected because it had not been tried at the West. Mr. Walker thought that if our friends at the West were so slow in obtaining varieties, that in twenty years it had not yet reached Cincinnati, they must not expect us to wait for them in these days of railroads and telegraphs. It was adopted for general cultivation.

DUCHESS OF ORLEANS was unanimously recommended for general cultivation. Some proposed to call it Beurré St. Nicholas.

DUCHESSE DE BERRI was pronounced a fine summer pear.

HOWELL was added to the list for general cultivation.

KINGSESSING was highly spoken of by Messrs. Brincklé and Buist.

KIRTLAND.—Dr. Brincklé recommended it for general cultivation. Messrs. Reid, Hodge, C. M. Hovey and Ernst thought well of it, but were not ready to add it to that list. The motion was withdrawn.

STEVENS'S GENESEE.—Mr. Eaton had found it liable to rot badly at the core. The President stated that Louise de Prusse of the French was synonymous.

LE CURE' OR VICAR OF WINKFIELD.—A long discussion took place in regard to this fruit, incidentally introduced by Mr. Field of New York. All considered it a valuable variety, though not one of the best pears.

It was then voted to make additions to the list of those which "promise well."

SHENKS.—Proposed by Dr. Brincklé, who thought it good. Messrs. Barry and Thomas thought well of it. Mr. Hoops, of Pennsylvania, thought it inferior. Mr. Waring, of Pennsylvania, one of the best. It was recommended as promising well.

PHILADELPHIA was added to this list. Dr. Brincklé stated that it was as large as the Duchess.

RICHARDS.—On the recommendation of Dr. Brincklé this was added to the list: but Messrs. Hovey and Saul thought the action of the meeting premature, as it was quite unknown, and trees were not yet to be obtained.

FONDANTE DU COMICE.—Messrs. Reid, Cabot, Hovey and

Wilder, considered it well worthy of a place on the list, aud it was added.

Niles.—Very little known, but thought a valuable winter pear by Messrs. Reid, Berckmans and Wilder. Added to the list; keeps till February.

Emile d'Heyst.—Recommended by the President. Mr. Berckmans stated that it was a fine large pear. Ripening in November. Adopted.

Beurre' Kennes and Counseilleur de la Cour were added to the list of those that promise well.

Marshall de la Cour and Duc d'Orleans were stated by Mr. Berckmans to be identical.

Comtesse d'Alost.—Recommended by Mr. Wilder and Mr. Barry, and adopted as promising well.

Bergen and Hageman were recommended by Mr. Prince, but they were too new to be generally known.

Beurre' Langelier.—Recommended by Mr. Cabot, who thought it one of the best winter pears. Highly spoken of by others, and adopted.

Bergamot d'Esperin.—Mr. Read thought it promised well and the President was much pleased with it.

Doyenne' d'Alencon.—Recommended by Mr. Read, as worthy the attention of cultivators. Keeping till May. Messrs. Prince, Buist and Walker also praised it. Mr. Barry said it was nearly equal to the Easter Beurré. Adopted.

D'Albret.—C. M. Hovey thought it promised well, being a fine bearer, handsome and excellent. Mr. Berckmans said it was a fine fruit. Mr. Cabot ranked it among the best, and Mr. Reid thought it was as good as the Lodge. Recommended.

Bonne des Zees.—Mr. Hovey thought it worthy of notice. Mr. Hodge did not think highly of it. Mr. Wilder said it was fine, but the tree cracked.

Delices d'Hardenpont, of Angers, was also considered by Mr. Hovey as well worthy of trial. Mr. Cabot pronounced it almost as good as White Doyenné. Adopted.

Delices d'Hardenpont, of Belgium, was recommended by Mr. Hovey. Messrs. Prince and Berckmans thought it excellent. Recommended.

Excellentissima, or Fondante des Charneuse. Recommended by Mr. Cabot, who said it was a good and healthy tree. Messrs. Barry, Ernst and Buist also thought it fine. Mr. Cabot stated that Duc de Brabant, Desireé Van Mons and Waterloo were synonymous.

Osband's Summer.—Recommended by J. H. Watts. J. J. Thomas thought it well adapted for light soils. Mr. Townsend considered it one of the best. Recommended.

Beurre' Nantais.—Mr. Barry introduced this variety as beautiful and fine. The President also thought it a charming pear. Recommended.

Graslin.—Introduced by Dr. Brincklé. Messrs. Walker and Buist and Col. French also spoke well of it.

Dix.—Recommended by Mr. Walker. Messrs. Barry and Walker considered it fine. Other cultivators had grown it twelve to sixteen years, and not yet seen the first fruit. Mr. Wilder and C. M. Hovey considered it one of the very best pears. All agreed that it was a very tardy bearer, and occasionally cracking. Recommended.

This closed the discussion upon such pears as promise well, and the meeting adjourned over to the next day.

Thursday, Sept. 25th, the subject of pears was resumed, and on motion of Mr. Walker,

Bellissime d'Ete was added to the rejected list. [We think it is already there under its true name of French Jargonelle. Ed.]

Bleeker's Meadow, upon motion of Dr. Brincklé, was taken from the rejected list. He thought it was too good to remain there, as did Mr. Prince. Mr. Ernst and Mr. Cabot thought it in the right place.

Passans du Portugal, on motion of C. M. Hovey, was also removed from the rejected list.

A committee was then appointed to prepare a rejected list, to be submitted at the next meeting of the Convention.

The meeting then proceeded to revise the list of

PEARS RECOMMENDED FOR CULTURE ON THE QUINCE.

Belle Lucrative.—Mr. Hovey objected to this variety

upon the quince. Mr. Barry thought it did tolerably well, and Mr. Hooker raised it finely on that stock. It was allowed to remain.

BEURRE' D'AMALIS.—The President and C. M. Hovey considered this a fine early autumn fruit.

BEURRE' D'AREMBERG was removed from the list.

TRIOMPH DE JODOIGNE was also removed from the list.

LONG GREEN of Mayence, usually called the Long Green of Coxe. Considerable discussion took place regarding this pear, which is often confounded with the Long Green of Autumn.

URBANISTE was considered one of the best growers on quince.

WINTER NELIS was proposed by Col. Frost, but objected to by some.

KINGSESSING, Dr. Brinklé said, did well on quince.

BRANDYWINE was recommended by Dr. Hooker and Mr. Reid.

BEURRE' SUPERFIN was recommended by Mr. Prince, Mr. Reid and Mr. Berckmans.

JALOUSIE DE FONTENAY was recommended as good on quince.

GRAY DOYENNE, and FLEMISH BEAUTY were generally considered rather poor growers on the quince.

BEURRE' GRIS D'HIVER, DOYENNE' D'ALENCON, PASSE COLMAR, and BELLE EPINE DUMAS, were recommended on the quince.

BUFFUM.—Messrs. Barry, Berckmans, Saul and others said it did well on quince.

SECKEL.—Recommended by some and objected to by others.

TYSON was recommended by Messrs. Barry, Townsend and Reid.

BEURRE' STERCKMAN by C. M. Hovey, and THEODORE VAN MONS by Mr. Berckmans.

KIRTLAND.—Recommended by Messrs. Reid, Berckmans, Waring, Ernst and Hooker, on the quince.

A long discussion then ensued in regard to the culture of

dwarf pears, in which the experience of several cultivators was given highly favorable to the culture of the pear upon the quince.

NATIVE GRAPES.

The interest felt in the introduction of new grapes increases every year, and the discussion of the several varieties brought before the meeting was animated and instructive. We have only room to give a very brief abstract of it.

DELAWARE.—Mr. Prince was of the opinion it would prove one of the most delicious. Mr. Downing and Dr. Grant considered it very fine and perfectly hardy. Dr. Brincklé thought it finer than any native grape in 1850, but had doubts of its being a native. Mr. Hovey considered it excellent, and wished it placed on the list of those that promise well, which was adopted.

REBECCA.—Mr. Prince had no doubt it was a variety of the Chasselas family; but Mr. Reid thought that it showed no indication of this. Dr. Grant stated that it had been exposed at Hudson three years, and had not suffered in the least. Mr. Hovey considered it one of the finest native grapes yet produced. Recommended as promising well.

To KALON.—Dr. Grant esteemed this highly. Messrs. Prince and Hovey thought the true To Kalon, which originated with the late Dr. Spofford, of Lansingburg, N. Y., as synonymous with the Catawba, and thought this must be another variety. Mr. Downing stated that it ripened with the Isabella, not quite so black, and better than that or the Catawba. Dr. Grant said it ripened a week before the Isabella. Mr. Saul also spoke well of it.

EMILY, CLARA, BRINCKLE', GRAHAM and RAABE.—Dr. Brincklé stated that the Raabe was raised from the Catawba, the others from foreign kinds. They were not generally known out of Philadelphia.

UNION VILLAGE.—This new grape was considered by Dr. Grant as good as the Isabella, earlier, with larger bunches. It was a monstrous grower. Mr. Ernst said it was a fine table grape. Mr. Cabot had eaten it and considered the flavor very fine.

HARTFORD PROLIFIC.—Not generally much esteemed; considered much inferior to the Concord or Isabella, but ripens very early. Messrs. Reid and Barry thought it unworthy of cultivation.

NORTHERN MUSCADINE, considered but little better than the common wild grape. Mr. Thomas was surprised at the pertinacity of the Shakers in recommending this so highly.

CONCORD.—All agreed upon the earliness of this fine grape, which, even on young vines that have fruited, is from a week to ten days earlier than the Isabella.

APPLES WHICH PROMISE WELL.

BENONI.—Messrs. Ernst, Hovey, Prince, Barry and Comstock, spoke highly of it. Recommended for general cultivation.

HAWLEY.—Recommended by Mr. Hovey to be placed on the list for general cultivation. All spoke highly of it, and it was adopted.

PRIMATE.—All who spoke of it recommended it highly, except Mr. Ernst, who thought it was not sufficiently known. It was recommended for general cultivation.

SMOKEHOUSE.—Considered by Mr. Hoops the best apple in Pennsylvania. Mr. Ernst thought it might be synonymous with the Vandervere. No action upon it.

RAMBO was adopted for general cultivation. Very much esteemed at the West, where it proved one of the hardiest trees the last winter.

KING (of Tompkins Co.)—Highly praised for its beauty, size and excellence, and recommended as promising well.

WAGENER and JUNE SWEETING were added to the list that promise well.

HIGH-TOP SWEETING, known in the West as the Yellow Sweet June. Unanimously recommended for general cultivation.

CAROLINA JUNE.—Widely known at the West and South, and considered fine by Mr. Phœnix, Dr. Brincklé and others. Added to the list of promising sorts.

JONATHAN.—Messrs. Ernst and Thomas had seen it West,

where it was as large as the Spitzenberg. Others spoke highly of its quality, but thought it too small. C. M. Hovey thought it remarkably beautiful and fine. It was generally considered among the best, and recommended for general cultivation.

WHITE SEEK-NO-FURTHER.—Considered by some identical with the Ortley. On account of the growth of the tree, which was poor, it was removed from the list heretofore adopted.

WELLS and Dominie were decided to be identical.

WILLOW TWIG, RAWLE'S JANET, PRYOR'S RED, ROME BEAUTY, LIBERTY, WHITE PIPPIN and COOPER, were discussed with the specimens before the meeting.

WINTER SWEET PARADISE was considered by Mr. Bateham the best winter sweet apple, better than Ladies' Sweeting; resembles in its growth Northern Spy. Recommended as promising well.

SMITH'S CIDER.—One of the most profitable apples in Ohio, and extensively cultivated around Cincinnati. It is a fine table fruit. Recommended as promising well.

FALLAWATER. Dr. Brincklé and Mr. Waring thought it a fine apple. It is much cultivated in Pennsylvania and the West. Recommended as promising well.

BROADWELL was recommended as promising well.

The meeting then adjourned to Friday, Sept. 26th.

PEACHES.

EARLY CRAWFORD and OLD MIXON CLING were recommended for general cultivation.

SUSQUEHANNA, HILL'S CHILI, GORGAS, MADELEINE DE COURSON, and HATIVE DE NEIGS, were recommended as promising well.

EARLY TILLOTSON was generally considered as a poor bearer, very subject to mildew.

CHERRIES FOR GENERAL CULTIVATION.

DOWNTON was removed from the old list. Considered a shy bearer and not of remarkable quality.

NAPOLEON BIGARREAU was recommended for special culti-

vation. A great variety of opinions were expressed in regard to this cherry, which cannot be accounted for only upon the supposition that the true sort was not cultivated. Mr. Barry said it was identical with the Bigarreau d'Esperin, which with us is an entirely distinct cherry, both in the habit of the tree and fruit.

Belle d'Orleans, Coe's Transparent, Early Purple Guigne, Gov. Wood, Reine Hortense, and Rockport Bigarreau were recommended for general cultivation.

PLUMS.

Prince's Yellow Gage and Lombard were recommended for general cultivation.

White Damson, Fellemberg, Genl. Hand, Bradshaw, Duane's Purple, German Prune and Pond's Seedling were recommended as promising well.

Frost Gage was removed from the list.

RASPBERRIES.

French, Cope, American Red, Ohio Everbearing, and Catawissa were recommended as promising well.

BLACKBERRIES.

The discussion upon blackberries occupied much time, and manifested a great interest in this fine fruit.

Improved High Bush.—Mr. Lawton stated that he had been astonished to find it so large and fine a fruit. Dr. Brincklé had found it large; he wished to have it called the Boston, and with the Lawton recommended for general cultivation. Others proposed to call it the Dorchester, where it originated; but Mr. Barry thought, and very justly, that it was too late to re-name it now. Recommended.

Lawton.—Another attempt was made to change the name to New Rochelle. Mr. Lawton first introduced it to public notice, and was well entitled to the honor. He first exhibited it in New York.

STRAWBERRIES.

The following sorts were recommended as promising well:

McAvoy Superior, Hooker, Scarlet Magnate, Victoria, Genesee, Le Baron, Longworth's Prolific.

The discussion on fruits then closed, and the Society adjourned to meet in New York in 1858, at such time and place as might be appointed by the executive committee.

THE LITERATURE OF GARDENING.

BY WILSON FLAGG.

No. X. Works of J. C. Loudon.

No author has done more for the general diffusion of knowledge on all subjects connected with practical and ornamental gardening and agriculture than the late J. C. Loudon. He was, indeed, one of the most remarkable men of his age; and performed an amount of literary labor that excites our astonishment, when we also consider him as a practical man, carrying out, under his own supervision, the business of an extensive farm. Mr. Loudon did not profess to be an original author, or to do anything more than the work of a compiler: but in all his compilations and abridgments, he has exhibited such an extraordinary combination of science, taste, and judgment, as to entitle him to a very high rank as an author. His works are very voluminous, and form a complete cyclopædia of rural science and architecture. In the present sketch, therefore, nothing will be attempted further than to give the reader a brief abstract of his general principles of ornamenting grounds.

Though it does not fall to the lot of every one, he remarks, to build the house he occupies, or to lay out its grounds, yet most people who have a country residence have the power of making such alterations and improvements as will render their abode suitable to their own taste or convenience. The first and most important consideration for every one who designs to inhabit a country residence is its situation. By one false step in the choice of a situation nearly all the comfort reasonably anticipated from it may be destroyed. The *healthiness* of

the location intended for a dwelling is obviously of the first and highest importance. This subject embraces elevation, character of surface, exposure, aspect, soil, subsoil, climate or character of the weather, and a general capacity for improvement. Near large towns, where the air is always more or less charged with smoke, an elevated site will always have the clearest atmosphere; and it is generally allowed that, for persons in health, the atmosphere should not only be free from impurities, but also charged with less than the average quantity of moisture. In valleys, and in low situations, there is always a larger proportion of moisture in the atmosphere than in high places which have a dry soil and subsoil. It is thought, however, that a moist atmosphere is the most favorable to consumptive people; but we would add that this is a point which can be determined only by the experience of the invalid, as it is well known that frequently of two consumptive members of the same family, one is better in a dry, bracing atmosphere, while the other requires the very opposite circumstances of climate. The author qualifies his remarks by hinting that low situations are often dry, and elevated situations often wet, on account of the character of the soil. *A low situation near the sea*, he continues, is almost always healthy, whether exposed to an east or west wind; because the air in both cases does more good by its bracing properties than by any excess of moisture. On the other hand, elevated situations on surfaces covered with peat-bog, or with marshy, wet, and springy soil, are generally unhealthy. *Prospect* is one of the advantages coming from elevation; and scarcely any object that can be created within the boundary-wall of a small spot can compensate for the want of a distant prospect to a general admirer of landscape. On the contrary, no distant prospect, however beautiful it may be, can compensate a lover of plants for the want of a good garden; the *beau ideal*, therefore, is to unite both.

Irregular surfaces are attended by an irregular climate; yet we may add that irregular surfaces afford the best chances of protection from the winds. For persons of weak lungs our author does not recommend irregular surfaces. A level

plain, on the other hand, at a distance from mountains, generally affords the mildest and best climate for invalids, and is also the best situation for a garden. With respect to *aspect and exposure*, he remarks, that an aspect sloping to the north is favorable to landscape, as it shows the best side of trees; the light side of all objects during winter and spring, and the greatest variety of light and shade throughout the year. But an aspect sloping to the south will admit of out-of-door recreation in winter, when a contrary aspect would be too cold and bleak for such exercise. The southern aspect is also more quickly dried after rain or snow, and more favorable to vegetation, and ought, therefore, to be preferred.

The character of the soil is of great importance when considered with reference to the garden; but with reference to health, the character of the *subsoil*, or the foundation on which the surface soil rests, is of by far the most importance. And even with respect to cultivation it is difficult to create a good garden upon a substratum of wet, clayey, and retentive soil. Rock, of almost every kind, forms a favorable subsoil, because it is generally neither too retentive nor too porous. Dry gravel forms a good subsoil for a house, but is apt to absorb the moisture too rapidly to make a good garden. The *climate* of every locality depends about equally upon soil and exposure. In low, marshy situations we would remark that in summer there is the greatest contrast between the temperature of the day and of the night. In dry elevated situations the temperature of night and day are more nearly equal. Our author remarks that in the heat of summer a river has a tendency to create a current of air by its coolness, and in winter by its warmth; and this action is greatly increased when the motion of the river is rapid, or when it rises and falls with the tide.

Water, which is an element so essential both for the house and the garden, is not likely to be overlooked; but with the present improved methods of procuring water by boring, or collecting it on the surface and preserving it in tanks, this element can always be obtained in any situation. But when economy is specially regarded, it is best to have water available without much expense of labor or machinery.

The external appearance and architectural style, to many persons, are more captivating than any property in a dwelling connected with habitableness. One person is an admirer of the Gothic, without considering that unless the number of windows in such a house is greater than in a building in the Roman or Italian style, the rooms will be badly lighted, on account of the thickness of the mullions and the smallness of the frames, and, on account of the defective manner in which Gothic windows are generally opened, not well ventilated. Some prefer a cottage with latticed windows, and surrounded by creepers, not considering that the rooms in such buildings are frequently low, dark, and ill ventilated; the floors subject to the dry rot, and the walls to damp; for, notwithstanding the beauty of flowering creepers, there is not a single kind of creeping plant, except the ivy, that will grow against the walls of a house without making them damp. Some prefer a house with a verandah all round it; and such an appendage undoubtedly keeps the house warmer in winter and cooler in summer, and affords a dry walk during rain, yet it often admits insufficient light to the rooms on the ground floor.

The kind of country house least liable to inconvenience is one that stands high, dry, and free; that is compact in its general form; that has the diagonal line of its general plan south and north, so as to obtain the sun on every window on some part of every sunny day throughout the year; or, in other words, that has no front or side pointing directly either east or west, or north or south; that has the rooms, and especially the kitchen story, lofty, well lighted and ventilated; that has few creepers on the walls, and that is not choked up with trees and bushes. These conditions being complied with, the architectural style of the building may be left to the taste of the occupant.

As the *cubic form* is known to enclose more space with the same quantity of walling and roof than any other, so it is an established rule that a house square in the plan is preferable in all that regards comfort, habitableness, and economy of heating, keeping clean and in repair, to one which is irregular

in its plan. A square house is more compact within, and from its form is warmer in winter and cooler in summer than any other; it is more easily heated; it has less space occupied by passages, and externally it exposes less surface to the atmosphere, and is consequently more easily kept in repair. The principal disadvantage of a square house is that it is supposed to afford less architectural beauty than any other form; but the author's opinion is that variety, which is obtained by an irregular style, however prominent a beauty it may be in landscape, is only a subordinate one in architecture; and that the grand characteristic beauties of that art are magnitude and symmetry. Mr. Loudon condemns the custom of placing country houses that are near streets or roads with their sides parallel to that street or road, without reference to its direction. Every house, whether it is thereby made parallel to the street or otherwise, in the country, should have the diagonal line of the general plan north and south.

With respect to the laying out and planting of the grounds, our author asserts that the difficulties of building, planting, and gardening, on a small scale, so as completely to attain the objects in view, are greater than on a large one. The difficulty, in the case of small places, arises from the deep consideration required to produce the greatest possible result from very limited means. In building or planting on a large scale the means are generally ample; and if not unlimited, they are at least frequently indefinite. The results obtained, therefore, are generally considerable, and such as to afford ample enjoyment to the possessor. In large places, likewise, it is less difficult to make such alterations and improvements as may be suggested afterwards; in small places the task of alteration is so great as to be almost impracticable.

It is the privilege of any generation to take advantage of all that is considered excellent in the practices of those which have preceded it. The first architects could have only one manner of architecture to study, and the first gardeners only one method of laying out their grounds; but the architects of the present day can have recourse to all the different styles of design and modes of building which have been practised by

different nations from the earliest age to the present. They may build in the classic, or the Gothic style; or they may adopt the historical and geographical variations of these styles, as exhibited in the Hindoo, Italian, English, or other manners of building. In like manner the landscape-gardener, who would lay out grounds at the present day, may adopt either the oldest or geometrical style, in which the forms and lines of the house are reflected in the garden in front of it, and which was practised by the ancient Egyptians more than three thousand years ago; or he may adopt the modern irregular style, in which the forms of nature are brought into immediate contrast with the forms of art; lastly, he may combine the two styles in such a manner as to join regularity and irregularity in one design. In a word, both in architecture and gardening, the artist of the present day is at liberty to adopt the style or manner of any former age, or of any other country, and adapt it to the wants of the country in which he lives.

The remarks of the author respecting the comparative merits of the different styles of laying out grounds are worthy of particular attention. Since the introduction of the modern or irregular style it has been customary to consider that style only as exclusively beautiful, and the geometrical style as unnatural and altogether in bad taste. In consequence of the universal prevalence of this opinion, we see constant attempts made to introduce the irregular manner of planting, and serpentine lines in places where they are altogether unsuitable. It is not uncommon, for example, in the suburbs of a city, to find a garden or a public square, with the boundary fence in a straight line, and parallel to it a serpentine gravel walk. Any person not entirely guided by fashion in his feelings and opinions, must perceive the utter want of harmony which exists between the straight line and the serpentine line, besides the impossibility of walking with comfort, when, at every five or six steps, the walk makes a turn, and when the turns, at some distance before the eye, may be all seen at once. For such scenes, and for all small gardens bounded by straight lines, the ancient or geometrical style is unquestionably the

best; hence all small gardens are laid out in this style involuntarily by those who have no preconceived ideas on the subject, doubtless from an innate feeling that it is most suitable to the boundary fence. Another class of persons who know just enough of gardening to be aware that there are two styles, and who have been accustomed to hear the ancient style decried by all the authors who have written on gardening since the time of Horace Walpole, look at the straight walks of their small walled gardens as deformities, and regret that they cannot, for want of room, indulge in that style which alone they have been taught to esteem as beautiful. Such ideas are entirely the result of prejudice in favor of opinions expressed by men considered as authorities, and who, at the time they wrote, were so much captivated by the novelty of the irregular style that they could not allow themselves to do justice to any other. Mr. Loudon concludes by giving his opinion that the ancient style is equal in merit to the modern one, and possessing quite as much claim as the latter to be considered natural and in good taste. In fact the geometric style may be said to be the more natural of the two, since the first attempts of rude nations, who are governed by their natural impulses, are always marked by symmetry and regularity, in their forms and combinations.

DESCRIPTIONS OF SELECT APPLES.

BY THE EDITOR.

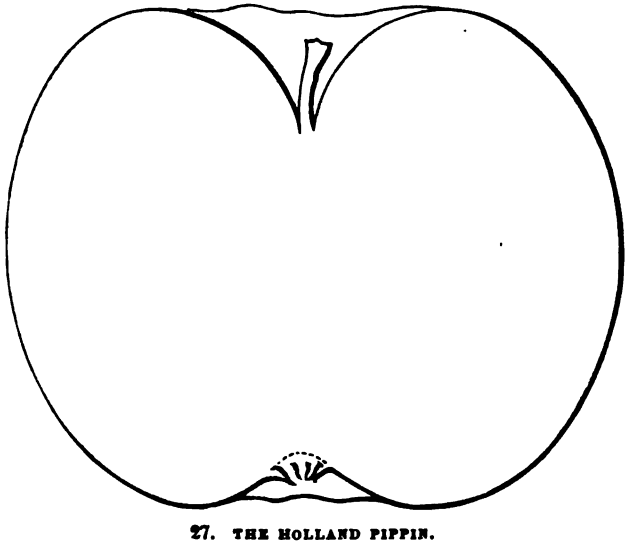
It is with considerable caution that we introduce descriptions of the different varieties of apples; so much confusion still exists, that except with the well known and tolerably familiar sorts, it is very difficult to decide which are new, and which are older and less known. It is our object in this article to have our descriptions and figures correct, and it is for this reason that we have not been able to give an account of a larger number in our present volume; as our specimen trees are now, after a long time, coming into bearing, we hope to

have an opportunity to study this important fruit more closely, and to clear up some of the doubts which at present exist in regard to the identity of many varieties.

LXI. HOLLAND PIPPIN. *Lon. Hort. Soc. Catalogue*, 1842.

Summer Pippin, } of New Jersey.
Pie Apple, }

The Holland Pippin, (FIG. 27,) is an apple of considerable repute, and has long been cultivated in New Jersey and New



27. THE HOLLAND PIPPIN.

York, but has not found its way into many orchards in the New England States. It has for a long time been considered, by many, as synonymous with the Fall Pippin, a variety resembling it in many particulars, but a distinct fruit. In England it is esteemed a culinary apple of the first quality, and with us it more than sustains its reputation, being undoubtedly improved by our warmer and dryer climate, for it is nearly or quite equal to the Fall Pippin. It is to the early fall apples what the Rhode Island Greening is to the early winter sorts, and it deserves extensive cultivation.

Size, large, about three and a half inches broad and three deep: *Form*, roundish, slightly flattened at each end, rather

square in outline, but regular: *Skin*, fair, smooth, yellowish green, broadly shaded on the sunny side with dull brownish red or blush, and conspicuously dotted with large greenish specks: *Stem*, short, about one quarter of an inch long, rather slender, and inserted in a small regular formed and rather shallow cavity: *Eye*, medium size, closed, and set in a small, moderately deep and finely furrowed basin; segments of the calyx short: *Flesh*, yellowish white, little coarse, crisp and tender: *Juice*, abundant, pleasantly subacid and high flavored: *Core*, medium size, closed: *Seeds*, medium size, acutely pointed. Ripe from October to December.

LXII. Fallawater. *Lon. Hort. Soc. Catalogue*, 1842.

Fallenwalder, *Elliott's Fruit Book.*
Tulpahocken of the West.
Green Mountain Pippin,
Pine's Beauty of the West, } according to Elliott's *Fruit Book.*
Faldwalder, of some.

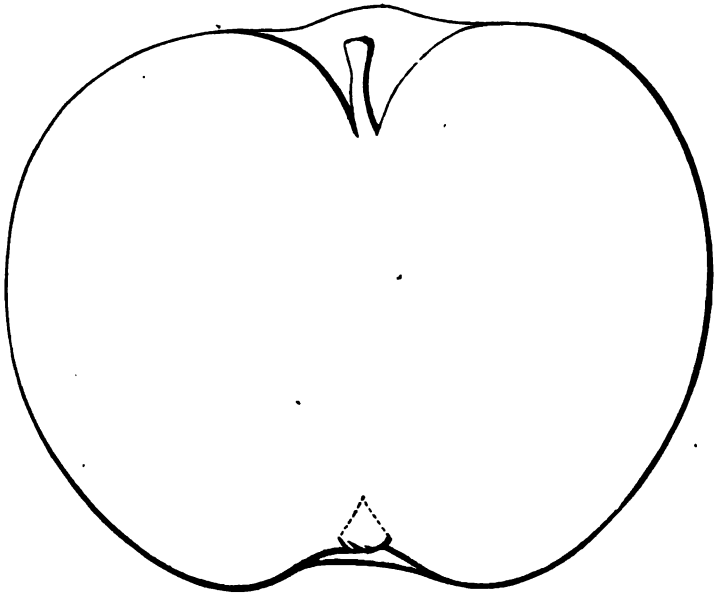
The Fallawater, (fig. 28,) under the name of Tulpahocken, we found one of the most common, as well as one of the handsomest, apples cultivated in the West; magnificent specimens were exhibited in Chicago, at the show of the Illinois State Agricultural Society last year, some of them weighing a pound each, remarkably smooth and fair. It is also extensively grown in Pennsylvania, where it originated in Bucks County.

For a long time it has been known as the Fallawater, but recently it has been called Fallenwalder and Faldwalder. Elliott says it is called Fallenwalder, because "it sprung up in the woods, and was left standing after the other trees were cut down; hence the name Fallenwalder, or apple of the cut down woods." Dr. Brincklé says that "it took its name from Mr. Faldwald, by whom it was originated." Without attempting to ascertain which of these two writers is correct, for the distinction is a wide one, we think it best to adhere to the old and familiar name of Fallawater, by which it has been known and cultivated for many years.

It is an excellent apple; a strong and vigorous growing

tree, the fruit remarkably fair, and keeping for a long time. It also possesses the good quality of carrying well for a long distance, which is very important when apples are sent many miles to market.

Size, very large, about four inches broad and three and a half deep: *Form*, roundish oblate, regular, depressed at the base, and narrowing but little to the eye: *Skin*, fair, smooth, greenish yellow, broadly shaded with pale blush, deepest on the sunny side, and dotted with a few large whitish specks and streaked with greenish russet around the stem: *Stem*,



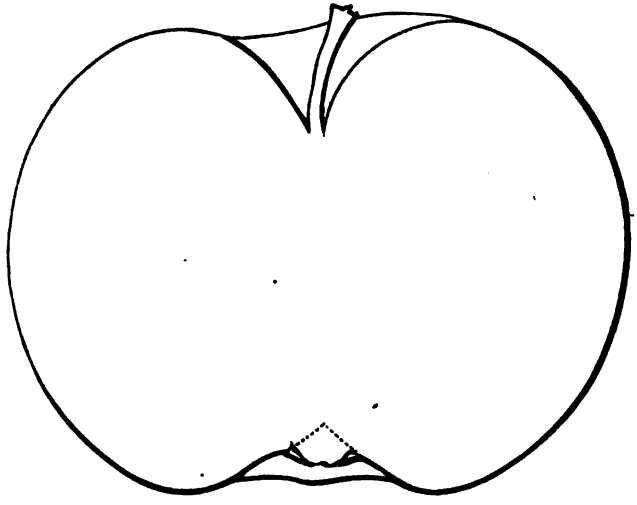
28. THE FALLAWATER.

short, about half an inch long, rather slender, and moderately inserted in a small, contracted cavity: *Eye*, large, closed, and little sunk in a small, rather shallow basin; segments of the calyx narrow: *Flesh*, greenish white, coarse, crisp and tender: *Juice*, tolerably abundant, slightly acid, pleasant and good: *Core*, large, closed: *Seeds*, small, plump, light brown. Ripe from December to April.

LXIII. Smokehouse.

The Smokehouse, (fig. 29,) is another Pennsylvania apple, introduced into the late Mr. Manning's collection upwards of twenty years ago. He received the scions from Mr. J. B. Garber of Lancaster, an amateur cultivator, who has been instrumental in making known several new fruits. It is very little known, however, out of its native State, where it is considered a very delicious fruit.

Mr. Elliot makes this a synonym of the Vandervere, but we consider the two entirely distinct. There are several apples



29. THE SMOKEHOUSE.

called Vandervere, but the *true* New York Vandervere is not the Smokehouse.

When well cultivated it is a large and very handsome apple, well deserving the attention of orchardists. It has not yet been tried in New England, but we doubt not it would do well.

Size, large, three and a half inches broad and two and a half deep: *Form*, roundish oblate, very regular, broad at the crown: *Skin*, very fair, smooth, with a deep yellow ground, indistinctly striped with bright red and crimson, and sparsely dotted with very large yellow specks: *Stem*, medium length,

about half an inch long, rather stout, and moderately inserted in an open, very regularly formed cavity: *Eye*, rather large, closed, and little sunk in a very large abruptly depressed basin; segments of the calyx, short, woolly: *Flesh*, white, fine, firm and crisp: *Juice*, tolerably abundant, pleasantly acid and well flavored: *Core*, small, closed: *Seeds*, medium size. Ripe from December to March.

POMOLOGICAL GOSSIP.

Root-grafted Apple Trees.—It will be recollected by those of our readers who are interested in this subject, that in a recent volume (XIX. p. 24) we objected to the practice of root-grafting apple trees, and gave our reasons therefor, in answer to a call from Mr. Barry, of Rochester, that we would do so. We stated facts, in proof of our views, but the reply of Mr. Barry was in such a flippant style, evading the argument, that we took no further notice of it. If the discussion, which was for the purpose of eliciting information, could not be carried on without personal allusions, we thought it might as well be dropped.

Since then the question has been freely discussed by the Western fruit growers in their annual conventions, in which various opinions have been given, some for and some against the practice, but it was not till recently that we saw the most convincing statements in regard to the ill effects of root-grafting, communicated by experienced men. In our visit West, last year, we noticed that the apple trees, wherever we saw them, had not the erect appearance of the New England orchards, and could attribute it to nothing else than the want of a vigorous stock by which the tree would be better able to resist the winds of the Prairies. But whether this was the cause or not it is not our purpose to inquire at this time. We now quote the testimony above referred to:—

"Judge Green, of Cedar Rapids, Iowa, has an extensive orchard of several thousand apple trees, mostly root-grafts,

planted five or six years since, in rows, quarter of a mile long, and extending from near the top of a high ridge down a pretty abrupt southern slope, not only to the base of the ridge, but across a gently inclined flat or bottom. . . . The judge, being an Eastern man, had very naturally secured a large number of Baldwins, Greenings, Spitzenbergs, Roxbury Russets, &c., perhaps most of which were planted on the low ground. Here they struggled up to last winter, mostly living, but not doing as well as the same sorts on the slope. Thus standing, that trial winter came, and completely finished up and wiped out nearly every tree that was left of those tender sorts, making sad inroads upon the appearance and profitableness of the orchard. Trees of the tender kinds, up the slope, were not indeed all killed outright, and should our seasons prove favorable for a term of years, they may possibly bring some fruit yet, but it would seem impossible for them to become permanently vigorous. Scarce a variety that we noticed, not even the hardiest, had done as well on the low as on the high ground. Of several tender or half hardy sorts, on the slope, *where a part were root-grafted and a part budded on seedlings*, IN EVERY CASE that we noticed, the LATTER WERE THE MOST HARDY AND VIGOROUS." This is the testimony of Judge Greene, as given in the *Iowa Farmer*.

We now add that of Mr. T. T. Lyon, of Plymouth, Michigan, as given in the *Michigan Farmer* for November:—

"It has *long been urged* by fruit growers upon the rich and bleak prairies that root-grafted trees are *less hardy* than seedlings; but never till the present season, have we, in this region, witnessed ocular proof to that effect. From the result of the present year's experience, it is also clear that some varieties are less hardy than others, for while *root-grafted trees of some varieties have suffered severely*, top-grafted trees of these varieties have ESCAPED ENTIRELY.

"On young trees the injury is produced at, or immediately above, the surface of the ground, where a spot of dead bark appears, extending partially, and sometimes wholly, around the tree; while on older trees the result is often manifested in a general debility, or in the death of a part or the whole of

the top, which on close examination will usually be found to have originated at or near the base of the trunk."

We close this evidence against root-grafted trees, with the experience of another cultivator in Pewaukee, Wisconsin, as given in the last number of the *Wisconsin Farmer*:—

"There is also this exception, and that is, that there is a difference between top and root grafts. *Top grafts and seedlings have not suffered as much as root grafts*, although exposed to the same extent."

NEW NATIVE PEARS.—At the meeting of the American Pomological Society in Rochester, N. Y., in September, among the fruits brought forward for trial were three new pears from New Rochelle, N. Y., exhibited by Mr. Carpenter. The committee on native fruits made a report upon them, which will appear in the printed transactions. They were respectively called the Huntington, Church, and Parsonage: of these we have drawings and descriptions, which will appear in our next volume. They all promise well, and we doubt not will rank among our best pears.

It is singular that they should not have been brought to the notice of cultivators before. The parent trees are very large and old; our friend Mr. Berckmans, of New Jersey, has recently visited the locality where they grow, to examine the trees, and sends us the following account of them:—

"I went on a pilgrimage to New Rochelle, and paid my humble respects to these three noble seedlings. The CHURCH is, or may be, from seventy to one hundred years old; has from six to seven feet circumference at two feet above the ground; has not a sick or decayed limb, and spreads its lordly top over three or four square rods. The HUNTINGTON is a fine erect *pyramid*, which, unfortunately, has been allowed to divide at six or seven feet into two leaders, running close together and of equal size. The poor fellow is *on a rock* for all subsoil! Still he seems vigorous enough and bears well. The Church bears very well, also, fourteen to twenty bushels. The PARSONAGE is a constant bearer, though much neglected of late, and wants only a few sound saw-and-axe operations to renovate its wood; it bears from ten to twenty bushels

yearly; its form is not fine, but would be if it had not been shamefully neglected. They have, however, a little more attention at present. The grafted trees of these original seedlings are all remarkably fine and vigorous."

The Parsonage is the largest, and the Church and Huntington nearly of a size. They ripen in September and October.

THE LIME AND THE LOCUST.

BY WILSON FLAGG.

The lime or linden tree *(Tilia Americana)* is generally known, among our countrymen, as the bass-wood, and has become of late a popular ornamental tree for our enclosures and roadsides. Its manner of growth is very similar to that of the maple, with less spread in proportion to its height. It has a very noble appearance, on account of the long sturdy branches into which it is subdivided, and the dark hue of its bark and foliage. This dark hue is chiefly apparent, however, on the smaller branches; on the trunk, which is comparatively smooth, like that of the beech, the bark is of a light ash color.

This tree has long been celebrated for the fragrance of its flowers, and the excellence of the honey which they produce; for the general beauty of its proportions, its fine verdure, and the density of its shade. The American and European species bear a close resemblance to one another; but the former has larger leaves, and larger and more showy flowers, hanging in more evident clusters, but not equalling those of the European lime in sweetness and fragrance. Both species are remarkable for their size and longevity. Some of the largest trees in Western New York are limes; and in those forests may be seen some of the grandest specimens which are to be found on the American continent.

The lime is not exceeded by any other species in the quantity of its foliage, nor in the beauty of its finely divided spray, when divested of its leaves. It is regular and symmetrical in its growth, without formality, and forms an oblong

round head, inclining to a conical shape. The branches incline upward, like those of the ash; but having alternate branches; its spray does not exhibit those defects which are manifest in the ash. The branches are seldom horizontal, and they do not widen their angle of junction as they increase in size. The leaves are roundish, heart-shaped, of a clear but not lively green, assuming a spotted, yellowish and rusty green tint in the autumn, and not contributing any share to the beauty of the woods in that season. But when divested of its foliage, and viewed against the sky as a background, no other tree exhibits a more beautiful and finely divided spray.

Very extensive use is made of the lime, in the middle States, as a shade tree. At the north the European lime is more common in our villages; and on many accounts already mentioned it may be considered preferable, being in many respects superior to the American lime, and not at all inferior to it in autumn, when both species are remarkably deficient in beauty. One of the curiosities of the lime tree consists in the little winged appendages to the seed, which is a round nut about the size of a pea. This is attached to a long stem, from the end of which, joined to it obliquely, descends a ribbon-like bract, causing it, when it falls from the tree, to spin round and round, and to travel a considerable distance upon the wind. If the tree stands upon the border of a lake, and the seeds fall upon the surface of the water, this little winged appendage performs the part of a sail, and causes them to be wafted by the wind to different points on the opposite shore. This is evidently a provision of nature for the diffusion of the seed, and the extension of the species.

The lime is a tree of rapid growth, and thrives well in a poor sandy soil, though it never attains the perfection of its size, except in a deep and fertile soil. It is also frequently named among those trees which are said to bear with impunity an exposure to the breezes from the ocean. But, with respect to the deleterious influence of the sea-breezes, I am confident there has been put forth a great deal of fallacious doctrine. I have seen nearly all our common trees and shrubs growing

thriftily in situations exposed not only to the worst severity of north-east storms, but also to the direct spray of the ocean; yet I could never perceive that any one species was at all injured by this exposure. The only respect in which an exposure to the ocean differs from any other equally bleak exposure is, the liability of plants in that situation to receive the spray of the salt water when dashed up by a violent storm. Even this could not reasonably be supposed to damage them, as it is usually washed off immediately by the rain which accompanies it.

The idea of a "salt-air" in the vicinity of the sea is a notion too absurd to be entertained by any one who understands the first rudiments of chemistry. Not a particle of salt would be raised into the atmosphere if all the waters of the ocean were dried up, until its bed was as dry as our streets in July. Salt cannot be evaporated, except by destructive distillation, which could be effected only by a heat powerful enough to fuse granite. At a red heat, salt will melt without undergoing any decomposition. It is impossible, therefore, that the smallest infinitesimal atom of salt can exist in combination with the atmosphere. In Beverly and Gloucester, on the promontories that project into the sea, and which are exposed to the severest gales from every point of the bay, we may search in vain for any evil effects produced by the sea-breeze upon trees and shrubs growing there without protection. All our common shrubs and timber trees grow thriftily in those situations, and all our common fruit trees thrive there better than they do twenty miles back in the interior, because they are less liable to injury from the late frosts in May.

The wood of the lime-tree has always been highly valued by the carver, for whose purposes, on account of its softness and toughness, it is admirably well adapted. It is useful likewise for many other purposes in the arts; for the panels of carriages, the inside of drawers, for bowls, and for the figure-heads of vessels. The whiteness, softness, and firmness of the wood probably first suggested the idea of manufacturing it into paper. Many successful experiments of this kind have been made, and some of the paper is equal to the medium quality of foolscap.

The Locust *(Robinia, pseudacacia)* is not supposed to be indigenous in the New England States; but as no one can remember the time when the species was not universally found here, it deserves to be described among our native trees. It belongs to the leguminous tribe of plants, and to the genus *Robinia*, which is peculiar to the North American continent, and received its name from Linnæus, in honor of Jean Robin, who first introduced the locust into France. Like other leguminous plants, its foliage is very fertilizing to the soil upon which it grows. Hence, the grass in pastures shaded by locust trees is always remarkably green and luxuriant. This circumstance, to whatever cause it may be attributed, is apparent to the most casual observation.

The locust is only a second-rate tree with respect to size, especially in Massachusetts, where it seldom exceeds the height of thirty or forty feet. Being subject to the ravages of a great variety of insects, it is commonly stinted in its growth by their attacks, its branches withered and broken, and on this account it seldom exhibits a full symmetrical head. In its style of growth it approaches the cylindrical shape, like the hickories; and, except while young, it resembles a tree that is deformed by old age, exhibiting a shapeless and irregular growth. This is evidently not the effect of climate, as the tree is perfectly hardy, but of the ravages of insects, of which Dr. Harris describes six or seven different species, whose grubs infest the bark and wood. It is remarkable that, while the timber of the locust attracts the larvæ of a greater number of insects than any other known species, the leaf, which is excellent fodder for cattle, is not touched by any kind of insect.

The locust is conspicuous for its delicate compound leaves, which are irregularly pinnate, having from nine to twenty-five leaflets, of a very beautiful green; and it is highly prized for the beauty and fragrance of its pendulous racemes of flowers, which, in the latter part of June, perfume the whole atmosphere in their vicinity. These flowers, though not so showy as those of the horsechestnut, are more pleasing to the eye, when, in harmony with the character of their foliage, they

hang like so many clusters of beads from every twig. The locust has never been sufficiently prized by the ornamental cultivator, who seems to think too much of its deformities and too little of its fine foliage and flowers. One of its defects is the entire absence of any autumnal tints in its foliage, and the extreme tardiness of its leafing in the spring.

In the south and west, where trees of this species are larger and more healthy in their growth, they often attain the height of sixty or seventy feet, and a proportional diameter. In Tennessee and Virginia some of the most common and beautiful shade-trees are locusts; and any one who despises the tree would be convinced, after seeing these noble specimens, that in many important points of beauty there are not many trees that surpass it. The timber of the locust, for hardness, strength, and durability, is not inferior to any known timber, except that of the English and the live oak. It is remarkable for the rapidity of its growth, especially during the first ten years, and is probably one of the most profitable trees for cultivation.

OUR ORNAMENTAL TREES.

BY THE EDITOR.

8. The Kolreuteria. (Kolreuteria paniculata, *L.*)

The Kolreuteria, though introduced into England as long ago as 1763, is still a rather rare tree with us, and does not appear to have attracted that attention which its merits deserve. We do not know of but one specimen of any size, and that is in the old Bartram Botanic Garden at Philadelphia, that museum of arboricultural treasures, without which we should have but little personal knowledge of many of the richest ornamental trees. To the labors of this pioneer botanist and lover of sylvan beauty, are we indebted for living representatives of many of the finest indigenous as well as foreign trees. Gathered by his own hands in their native habitats, or received from his numerous correspondents in

Europe, he planted in his grounds, more than half a century ago, the rich collection which still exists and enriches and adorns the grounds of the present owner.

The Kolreuter*ia* paniculata, or Panicle-flowered Kolreuteria (FIG. 30,) is a native of China, and, like other natives of that country when transplanted to our own, suffer slightly from an occasional severe winter, which injures the new

30. THE KOLREUTERIA TREE.

wood more or less, checking the growth of young trees, so that for the first few years they make slow progress. The Ailanthus and Paulownia are from the same country, and though considered quite hardy, as they in reality are, and forming fine large trees, they occasionally lose a portion of their young wood, but soon replace it by a new and vigorous growth. The Kolreuteria is of the same habit, but does not

advance with the same rapidity, its annual growth being usually only a foot or so.

It is a tree of the middle size, the Bartram specimen being about twenty feet high. The branches are few in number, short, stout, and nearly erect, somewhat rough, with a brownish colored bark. The leaves are pinnate and coarsely toothed. The flowers, which are yellow, appear in loose terminal panicles, in July and August, and are highly ornamental. These are succeeded by the seeds, which appear in large bladdery capsules. The summer tint of the leaves is of a light green, but in autumn they change to a deep yellow.

The Kolreuteria prefers a light loamy soil, and a situation rather dry than otherwise. In a wet locality it suffers by the winter, losing a portion of its young wood. As it acquires age, however, its growth is less and the branches become tough and woody, resisting the intense cold uninjured. It forms a neat hemispherical head.

The propagation of the Kolreuteria is by seeds, or cuttings of the roots. The former should be planted in boxes in the autumn and have the protection of a frame: in the spring the young plants will appear above the ground and should have the usual care. The second winter the young plants, still in the boxes, should again have some little protection; but the third year they should be planted out in nursery rows in a warm and light soil. Their after-treatment is the same as other trees. Cuttings of the roots should be planted in boxes, in the autumn, and have the same management as the seedlings.

We commend this tree to the attention of amateur planters. Introduced among others it forms a pleasing contrast in the short, stocky growth of its blunt shoots, in the doubly pinnate character of its light and airy foliage, in the bright hue of its yellow flowers, and in the abundance of its swollen seed vessels, affording at all seasons something to interest the true lover of ornamental landscape.

REVIEW.

STUDIES IN THE FIELD AND FOREST. By WILSON FLAGG. 1 vol., 12mo. pp. 300. Boston. 1856.

WE need only announce the collection in one volume of the elegant sketches under this title, which have appeared at various times the past two years in our pages, to induce every one of our readers as well as lovers of nature, or of rural life, to possess a copy. But Mr. Flagg has added to them a series of sketches upon the aspect of the different months of the year, and other papers, which have appeared in literary journals, thus rendering this volume new, even to those who have enjoyed so much from the perusal of that portion of them familiar through our Magazine.

Mr. Flagg needs no eulogium from our pen. He is one of the most pleasing writers upon rural themes, and subjects connected with inanimate nature. His style is so simple and natural, that we enjoy all he describes, scarcely less sensibly than if we accompanied him in his sylvan rambles—strolled with him among ruins—scrambled over rocks—reclined upon the seashore—watched the ever-changing clouds—listened to the music of our song birds, or the hum of the insect world.

But these descriptions of still life are not the only interesting subjects which come within the scope of his pen. His essays upon the picturesque, his delineation of natural scenery, and his ideas in regard to what should be considered the true aim of all who would enjoy the country and rural pleasures are of the greatest value, and must be read with interest and instruction by every lover of natural beauty or landscape art.

We commend Mr. Flagg's volume to our readers, convinced they will find it one of the most delightful books that has been issued from the press.

General Notices.

OXALIS BOWIEI.—It may not be generally known that this succeeds well as a bedding plant. It produces its beautiful rose-colored flowers in great profusion, until destroyed by frost in autumn: and when planted in contrast with other gay colors I have always found it to be greatly admired. The bulbs should be potted the third week in March, and plunged in a gentle bottom heat. I put three bulbs in a 3-inch pot: when they have grown about two inches I shift them into 4-inch pots, and gradually harden them off in frames with other bedding plants. They are planted out about the middle of June, by which time they will be nicely in bloom; it is necessary to support the flower stems with small stakes when first planted out, for if this is not done they are liable to be blown off. Until the plants have established themselves firmly in the ground, a situation rather sheltered from the wind, and well exposed to the morning sun, should be chosen for them, as they show themselves to most advantage during bright sunshine.—(*Gard. Chron.*, 1856, p. 645.)

[This oxalis is the finest of the whole family, and if it will succeed, as the writer states, it will make a superb bedding plant. We advise a fair trial *of* it by our amateurs next spring.—ED.]

CLOTH OF GOLD ROSE.—Seeing your account of the Cloth of Gold Rose, which grows at Hethel, I think it may not be unsatisfactory to you to know that such is not altogether a rarity in this county. I have a Cloth of Gold worked on a Felicité stock in 1850. It flowered the second year, now measures five and a half inches in the stem, and spreads over a surface of 19 by 18 feet. In 1855 I counted on it one day 128 flowers and buds; and at this moment (October 31,) it has more than a score, and half of that number almost bursting. I attribute its rapid growth to a copious supply of moisture which it obtains from a veranda against which it grows; which, it strikes me, has something to do with the gigantic growth of the Hethel rose. And I have observed a similar effect in other cases. Certainly my rose has no special advantages. There is also another much larger one than mine in the grounds of J. Webb, Esq. of Stalham, in this county.—(*Gard. Chron.*, 1856, p. 742.)

LATE FLOWERING PLANTS FOR AUTUMN DECORATION.—On looking over our parterres it will be found that many of their gayest occupants have suffered from the autumnal rains which we have experienced of late, and that they are now dull and comparatively insignificant. Amongst the sufferers are our Geraniums and Calceolarias, which are indispensable for summer and early autumn decoration, but as the season advances are una-

ble to uphold their position. Therefore I propose to bring more into notice two or three plants, great favorites of mine, which are now in their glory, and have much to recommend them. The first and finest of all is the Verbena venosa, a plant very generally known, but hitherto scarcely used for decorative purposes, but its merits cannot be too highly eulogised; it is a distinct species, having rosy purple flowers, neat habit, growing from 1 to 2 feet high, according to soil and situation; bears pegging down admirably. It is a plant of easy cultivation, being best raised from seed in early spring, and planted out the end of May, when it will begin to flower in August, and continue in perfection through October, but it must be seen in mass or line as we have it, then some idea can be formed of its superior qualities. The next in point of interest is the Tagetes signata (or tenuifolia,) an annual of the Marigold kind, having deep orange colored flowers, beautiful foliage, and a neat bushy habit of growth, height 1 to 2 feet; an excellent plant for massing. A great error is often committed in planting out annuals in putting them too close together; thus in the case of Tagetes, one plant in every 4 square feet of ground is quite sufficient. The third is the Double White Feverfew, an old well-known plant, which is well adapted for bedding and to grow in line as in the ribbon fashion; raise it from seed in the spring, when it will flower well late in the autumn. There are two others I shall mention which are very generally used; but in many places not to the extent they deserve. One is the Calabrian Soapwort, with its pink star-like flowers, one of the best plants for bedding we have to sustain the gaiety of the flower-garden through the autumn. The other is the little Koniga maritima variegata, a useful plant for bedding and to grow in line, being very hardy, continuing to bloom late in the season. Another very fine late-flowering plant is the Lobelia ignea. These, together with purple, yellow, and white Heartease, would create a splendid display after most of the summer things have failed, and as many families do not arrive at their country residences before September or October, in such places hardy late-flowering plants deserve our best attention.—(*Gard. Chron.*, 1856, p. 677.)

Autumnal Raspberries.—I have had such an abundant crop of these all last month and up to the present time, for even now the canes are full of fine fruit, that a few words about their culture may perhaps be useful. There are four varieties more particularly worthy of notice. Rogers' Victoria—Merveille des Quartre Saisons, yellow; this is large, sweet, and excellent—Merveille des Quartre Saisons, red; this is about the size of the Red Antwerp, and very good—Large-fruited Monthly, or to give its long French name, "Framboisier de tous les mois à très gros fruit." The first is a sort sent out many years ago by a Mr. Rogers, then of King's Road, Chelsea; it is rather dwarf, not of a very robust habit, and yields fruit nearly all through September. The second and third have their fruit on very long spikes and bear most abundantly all through October, and till destroyed by the frost. Their culture is very simple, as they merely require being

planted in rows about the same way as the summer raspberries, and cut down close to the ground early in March. No canes to bear in summer should be left, for the fruit they yield then is small and inferior to the summer varieties; in autumn their fruit is large, and of excellent quality. The fourth sort requires a different mode of culture, for unless the soil is very rich and moist it ceases to bear in the autumn if suffered to grow more than one year without removal; the canes should therefore be taken up every season any time during the winter, but not later than February, and planted on a fresh piece of ground, or on the same ground well manured, and then cut down close to the ground, leaving only one bud above the surface; under this treatment they will yield an abundant crop in autumn, till November, of fine large fruit, and well repay the trouble of transplanting. For orchard house culture in pots they will be found excellently adapted, particularly the third and fourth sorts; for this purpose they should be potted into 11 or 13-inch pots in February, cut down close to the surface, placed out of doors during the summer, and removed to the orchard-house in September; they will then ripen their fruit admirably, and serve to remind the cultivator of the by-gone days of raspberry-tide.—(*Gard. Chron.*, 1856, p. 743.)

Monthly Gossip.

VERBENA IMPERATRICE JOSEPHINE.—We were in error in stating in our notice of this new verbena, in our last number, that it was raised by Mr. Geo. C. Thorburn. Mr. T. does not claim this honor, but merely that of being the introducer of so fine a variety. It is a French production, imported the last summer.

MR. BLOOD'S SEEDLING GRAPES, said to have been raised from seeds of Malaga raisins, appear to be varieties of our native sorts. They ripen very early, and for quality rank with the Northern Muscadine and Hartford Prolific. Those who have tried them in a northern climate speak well of their earliness and quality.

LARGE PEARS.—E. L. Beard, Esq., President of the California Agricultural Society, exhibited at the State Fair, in October last, five Duchess of Angouleme pears, the smallest weighing *two pounds and a half*, the largest *two pounds and three quarters!* one measuring eighteen inches three quarters one way, and sixteen one quarter the other. California is truly the paradise of pears.

Mr. J. Waters, of Baltimore, presented us, during our recent visit to Philadelphia, with a Glout Morceau, weighing *sixteen and three quarters ounces!* It was the finest specimen of this pear we ever saw, and as delic-

ious as we ever ate. We kept it in excellent order up to the last of November.

SPLENDID CALIFORNIA FRUITS.—Our correspondent residing at San José, sends us the following account of some splendid fruit, exhibited at the late Fair of the California Agricultural Society, held at San Francisco:—

"Taking the youth of the State it was a great deal, when, in the fruit department four years ago, there was not a dozen apple trees in California; and now a long table down the City Hall, I should say about ninety feet long, was laden with the finest apples, &c. I ever saw; some Gloria Mundi, two pounds three quarters. To show you the difference of climate; this apple at home is not worth a cent only for cooking; it is here a first rate apple, and all the judges coincide in that opinion. Porters over one pound each. In fact, all the apples here are much larger than in the Eastern States,—whether they will continue so or not I cannot say.

Pears are at home in San José. A Mr. Fallow exhibited *six* Duchess d'Angouleme, weighing only sixteen pounds; one of them was *three pounds lacking an ounce.* There were Catillac pears as large as marrow squashes. Six peaches, Heath Cling, weighed six pounds six ounces; and Capt. Macondray's show of foreign Grapes were extra fine; he had about fifty bunches, none of them under *three pounds:* coming from one establishment, I thought they were the finest collection I ever saw."—Yours, B. S. F.

THE CONCORD GRAPE is gaining friends as fast as we supposed it would until it had been cultivated longer. We have evidence from all quarters of its hardiness, earliness and excellence, although the vines are yet altogether too young to produce a good sized bunch. The *American Agriculturist* speaks thus in regard to this much-abused variety:—

"The Concord Grape, which caused so much discussion at its introduction some four years ago, [only three] is settling down to a place among standard fruits, in northern climates. No grape was ever introduced with a louder flourish of trumpets, and few were ever assailed with severer criticism. It is gradually winning favor, and appears destined to become popular where the Isabella will not ripen. A fruit grower in Connecticut recently informed us that it had done remarkably well with him, ripened this year by the 1st of September, while the Diana did not mature till the 16th, and the Isabella not until the last of the month. This is valuable testimony to its early maturity. The price has fallen from five dollars to one, and is now within the reach of all who desire it. We hear of gentlemen who are making large plantations of it."

PEABODY'S NEW STRAWBERRY.—Mr. Peabody informs us in a recent letter, that his requisite number of subscribers is nearly made up, and the plants will probably be sent out in the spring.—ED.

Societies.

PENNSYLVANIA HORTICULTURAL.

The Twenty-Eighth Annual Exhibition of this Society was held at Penn Square, on the 16th, 17th, and 18th of September last. The display of plants was extremely fine, and the fruits unusually good. Numerous and liberal premiums were awarded, among which we notice the following:—

COLLECTION OF PLANTS.—Best twenty, open to amateurs, to John Pollock, gardener to I. Dundas, $20.

For the second best, to Mark Hill, gardener to H. W. Baldwin, $15.

Best twenty, open to all, to Charles Sutherland, gardener to John Anspach, $20.

For the second best, to Isaac Collins, gr. to Col. R. Patterson, $15.

DESIGNS, &c.—For the best, to H. A. Dreev, $20.

For the second best, to R. Dunlap, gardener to C. Fallen, $15.

GRAPES, grown in pots.—For the best ten, to R. Mathews, gardener to J. S. Lovering, $10.

For the best collection of cut bunches, to Geo. Lazenby, gardener to D. S. Brown, $10.

PINE APPLES, grown in pots.—For the best five specimens, to Wm. Grassie, $10.

PEARS, native collection.—For the best, to Hovey & Co., Boston, $10.

For the second best, to Dr. J. K. Eshleman, $5.

PEARS, foreign collection.—For the best, to Hovey & Co., Boston, $10.

For the second best, to L. N. Rogers, Baltimore, $5.

APPLES.—For the best collection, to J. Perkins, $5.

For the second best, to S. W. Noble, $3.

AMERICAN INSTITUTE.

The Annual Fair of the American Institute closed on the 25th of October, and the award of premiums has been published. The display of fruit was not so large as last year, but the specimens were larger and finer. The show of roses and dahlias was very fine. We copy the principal premiums:—

APPLES.—For the best collection, to L. C. Lighthipe, Orange, N. J., silver cup, $10.

PEARS.—For the best collection, (200 varieties,) to Hovey & Co., Boston, silver cup, $10.

For the second best, to T. W. Field, Brooklyn, silver medal.

NATIVE GRAPES.—For the best 12 bunches of Isabella, to Wm. A. Underhill, Croton Point, bronze medal.

For the best Catawbas, to Wm. A. Underhill, bronze medal.

FOREIGN GRAPES.—For the best four named varieties, to Mrs. F. B. Durfee, silver cup, $10.

For the second best, to E. H. Rogers, Ravenswood, L. I., silver cup, $8.

Dahlias.—For the best display, to M. Donadi, Astoria, silver cup, $15.

For the second best, to C. S. Bell, New York Orphan Asylum, silver cup, $10.

Cut Flowers.—For the best display, to A. Bridgman, Broadway, silver cup, $10.

Numerous other premiums were awarded in books, magazines, bronze medals, &c.

Horticultural Operations

FOR DECEMBER.

FRUIT DEPARTMENT.

The autumn throughout has been exceedingly mild, and November was a favorable month for the completion of fall work. Scarcely 10° of frost has been experienced, and there have been less storms of rain than usual at this season. All who have planting to do can have no excuse for putting off the work till spring. Ample time has been afforded to protect and prepare all kinds of trees for the winter, and the gardener's attention may now be turned to the in-door department, where he has such work under his charge.

Grape Vines in the earliest houses will now be swelling their buds and should have the most careful attention both in regard to moisture and the temperature of the house as well as the condition of the roots; on the latter depends the success of the crop. In all early forcing it is all-important that the roots should be kept as warm as possible, and consequently a thick covering of manure and hay or leaves is absolutely necessary. Vines in the greenhouse now pruned and cleaned, will need no further care till February. Vines in cold houses will need protection by covering with mats or straw, out of injury from frost.

Strawberry Beds, if not already protected by a covering of manure, leaves or straw, should be attended to immediately.

Raspberry Bushes should also be covered with a few shovels full of soil or manure.

Fruit Trees should now be well manured, which answers at the same time as a protection to the roots from severe frosts; if guano is to be applied, now is a good time.

Peach Trees and Grape Vines in pots intended for forcing in the house should now be protected from severe frosts.

Fruit will require attention; keep the temperature of the room as even as possible, from 35 to 45°, airing it on warm days.

The Canker Worm Grub will yet be troublesome if the weather continues mild. Continue to tar the trees as long as the earth thaws during the day.

FLOWER DEPARTMENT.

The greenhouse and conservatory will now begin to assume a more beautiful appearance, and the interest increases as the season advances. The camellias will begin to bloom, and such showy plants as the acacias, lauristinus, &c. open their blossoms. Everything should now be put in the best order; the pots should be kept cleaned, and the whole collection looked over, top-dressing such as need it, repotting others, and preparing all for a spring growth. Now is the season to look after the Japan Lilies and other showy plants which will be needed for decoration next summer. Bedding plants will also require attention, and the old stocks set to work from which cuttings are to be taken for propagation. Enough may be found to keep the most industrious gardener full of work.

Chrysanthemums, now going out of bloom, may have the tops cut off and the plants removed to a cold frame, where they can remain for the winter.

Pelargoniums. All the plants which require it should be repotted, using the next size to that in which they are now growing, as large shifts do not suit this plant; tie out the shoots carefully, and nip off such as show a tendency to grow vigorously. Be careful not to over water at this season.

Cinerarias. All strong plants should now be repotted, and have more room. Keep them in an airy place, and fumigate often to keep down the green fly.

Camellias should be liberally watered now.

Roses taken up out of the open ground, and protected in frames, should now be pruned and brought into the house.

Verbenas, for winter blooming, should be shifted into large pots.

Achimenes and Gloxinias, for early blooming, may be shaken out of the old soil and freshly potted at the close of the month.

Monthly Carnations growing vigorously may be repotted.

Calceolarias, potted off last month, may have a shift into the next size now.

Fuchsias for early blooming should now be headed in closely, disrooted and put into new pots.

Chinese Primroses growing freely will require another shift into larger pots.

Heaths and Epacris will need attention. Water liberally and keep the plants in a cool airy part of the house.

Azaleas should be yet sparingly watered.

Japan Lilies should now be potted.

Gladioluses of the spring blooming sorts should be potted.

Daisies and Pansies for winter blooming should have a cool situation on the shelf, as near the glass as possible.

Heliotropes may now have a shift into larger pots.

Tropæolums, now growing and flowering, should have a shift into larger pots, and be trained to a neat trellis.

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